Fishing With Bottom Gillnets

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PREFACE

This booklet is about bottom-set gillnetting. It shows how to make three different kinds of nets, how to use the nets, and tells about equipment that can be used to make fishing easier. It is written for fishermen. People who already know to make nets and other kinds of fishing gear, and how to use boats, will also know many of the things that the booklet talks about. They will be able to use what they already know to catch fish in different ways. FAO hopes that fishermen will be able to catch more fish with bottom-set gillnets.

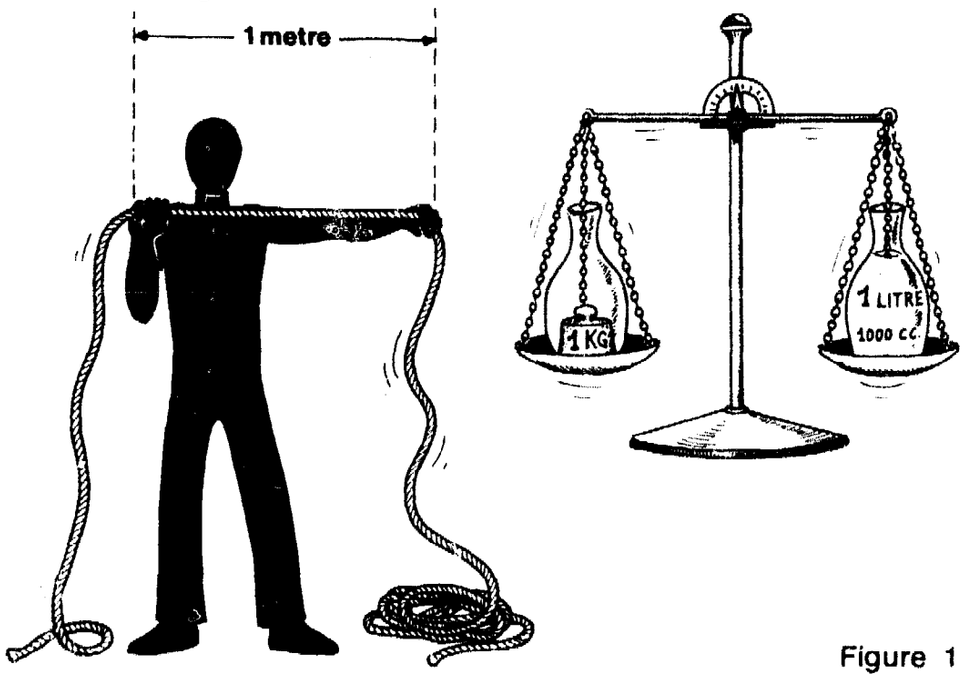


Figure 1

This booklet has been written in a way that will be easy to understand. If a fisherman has trouble reading English he can take the book to someone who reads well. By listening to the words and looking at the pictures he will be able to understand everything. The booklet will help each fisherman to find the best way to fish where he lives.

The measurements in the booklet are all given in the metric system. For the big measurements (like the length of nets or the weight of sinkers) it is all right to say that a metre is the distance from your left shoulder to your right hand (Fig. 1) and that a kilogram is the weight of a 1-litre bottle full of water, if you do not have any better way to find out. For the small measurements you can use the pictures in this booklet. Any time the words real size *are written next to a picture, the thing you need to measure should be the same size as the one shown in the picture.*

FAO would be grateful if the readers of this booklet would send in any comments or questions they have about it. Letters from people who have used this booklet to make bottom-set gillnets will help us to prepare other booklets of the same kind. Send letters to: Fisheries Technology Service, Fishery Industry Division, Food and Agriculture Organization of the United Nations, Via delle Terme di Caracalla, 00100 - Rome, Italy.

WHAT A GILLNET IS AND HOW IT WORKS

A *gillnet* catches fish that swim into it. It has a *floatline* along the top and a *leadline* along the bottom. The netting hangs straight up-and-down in the water like a good fence (Fig. 2).

A gillnet catches fish by their gills. It works like this: the *twine* of the netting is very thin, and either the fish does not see the net or the net is set so that it traps the fish. The meshes of the net hang wide open. When the fish swims up to the net it sticks its head right into one of the meshes (Fig. 2a).

If the fish is too small for the mesh it will swim right through and get away. If the fish is too big for the mesh it might tear the net and get away. If the fish is the right size it pushes its head and body tightly into the mesh, but it is too big to fit through (Fig. 2b).

When the fish tries to pull its head out of the mesh the thin twine cuts into its skin; its gills and fins get caught in the mesh. The fish stays in the net until you pull it up (Fig. 2c). Fish are also caught when the net wraps around them.

Gillnets can be used in many ways. They can be made to rest on the bottom (Fig. 3a), to hang between the bottom and the surface (Fig. 3b), or to float on the surface

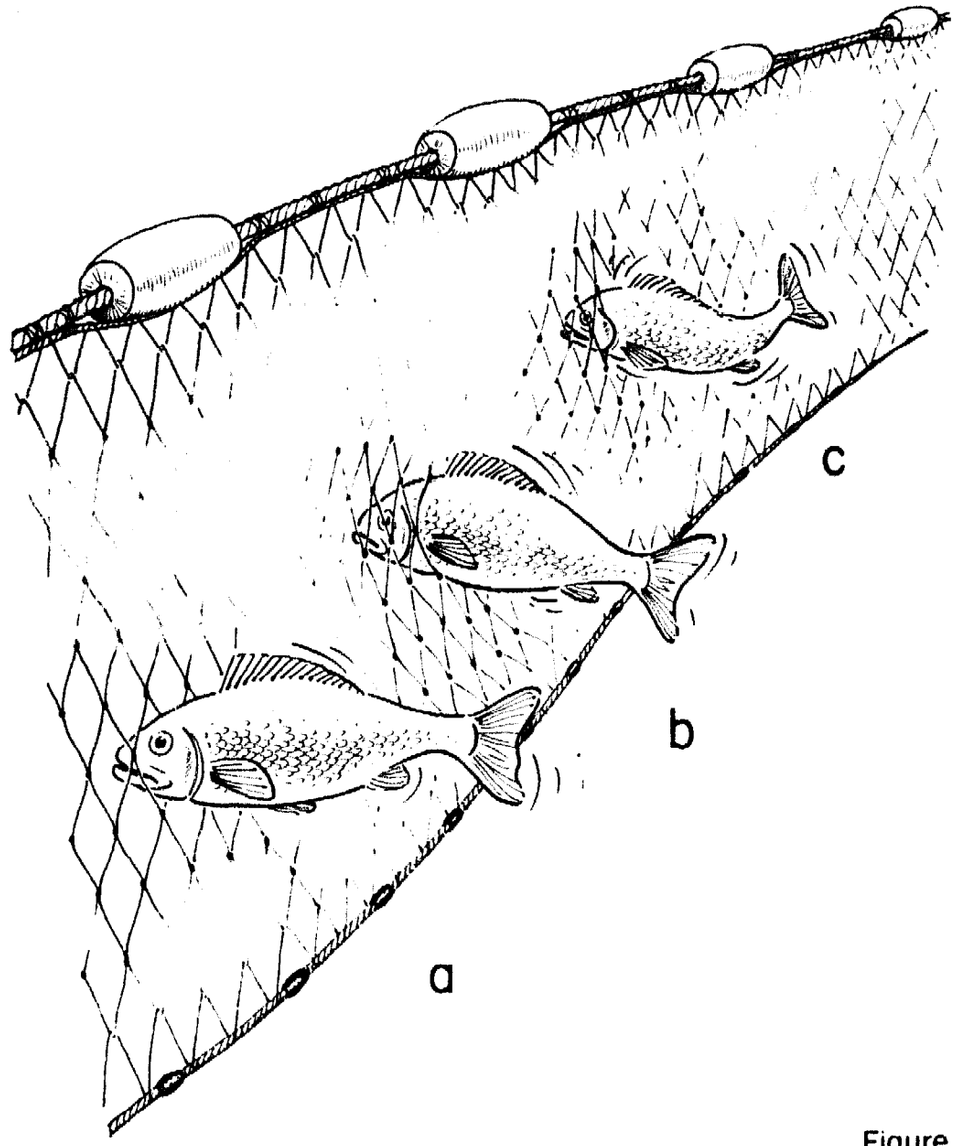


Figure 2

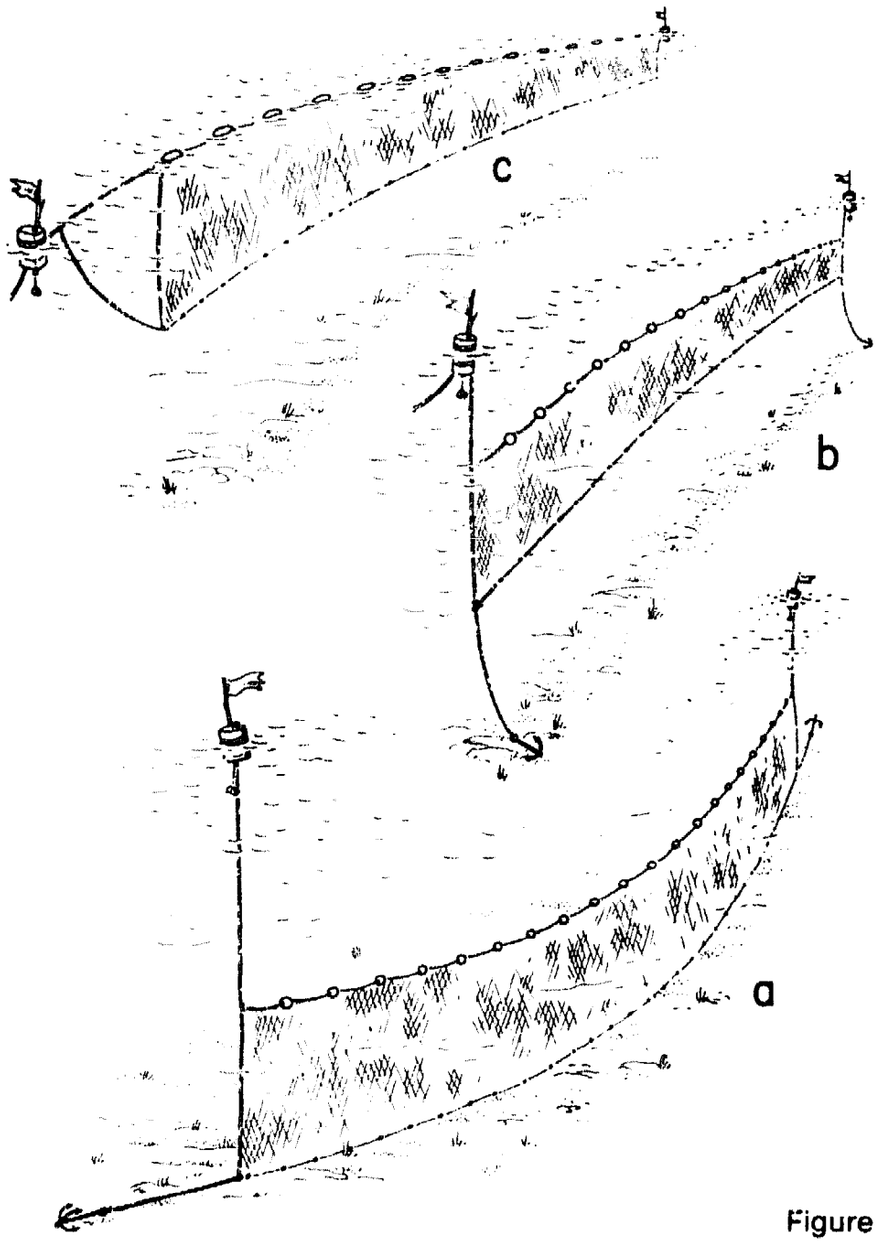


Figure 3

(Fig. 3c). Gillnets can be *set* in one place with anch
(Figs. 3a and 3b), or allowed to *drift* with the curr
(Fig. 3c).

A *bottom-set gillnet* has heavy *sinkers* on the leadl
to keep it on the bottom and is set in one place either
having anchors at both ends or by tying one end of the
to something on land.

A bottom-set gillnet can be used in rivers, lakes or
sea. You should use it when you know that the fish y

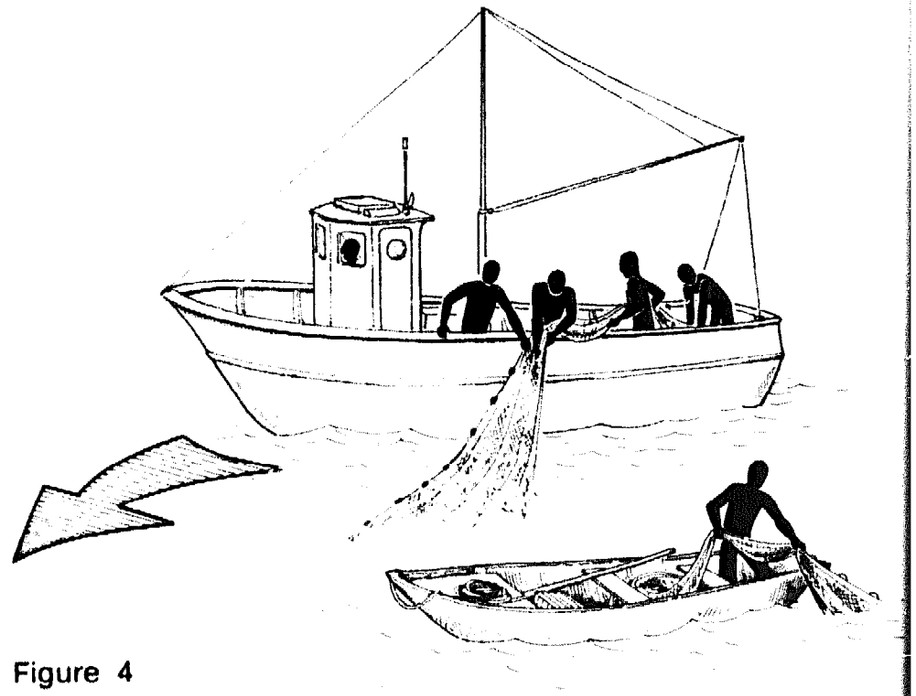


Figure 4

want to catch live on the bottom or near to the bottom. It is hard to use if the bottom is too steep, too deep or too rocky. Almost any size of boat can be used to fish with these nets. A man with one or two nets can use a canoe and catch fish for his family (Fig. 4). Four or five men with 50 or more nets can use a boat of 7 to 15 metres to catch many fish for the market.

Figure 5 shows the different parts of a bottom-set gillnet. There are many different kinds of materials you can use for making a net. You must choose the kinds that are best for the kind of fish you want to catch and for the place where you will be fishing.

To make a net you will need netting (Fig. 5a), rope (Fig. 5b), floats (Fig. 5c) for the floatline, sinkers for the leadline (Fig. 5d) and plenty of twine to sew everything together (Fig. 5e). When you use the net you will need anchors (Fig. 5f), buoys (Fig. 5g), and anchor-ropes (Fig. 5h). You will need netting needles (Fig. 5i), a good knife (Fig. 5j) and posts or trees to hang the net from (Fig. 5k) while you work on it. You will need a place to work and should get together everything you need before you start.

You can save money by making floats and sinkers yourself (Fig. 6). They should be round and smooth so that they do not catch the netting. For example, lead sinkers and rings are better than chain and stones. Ring-shaped and ball-shaped floats are best.

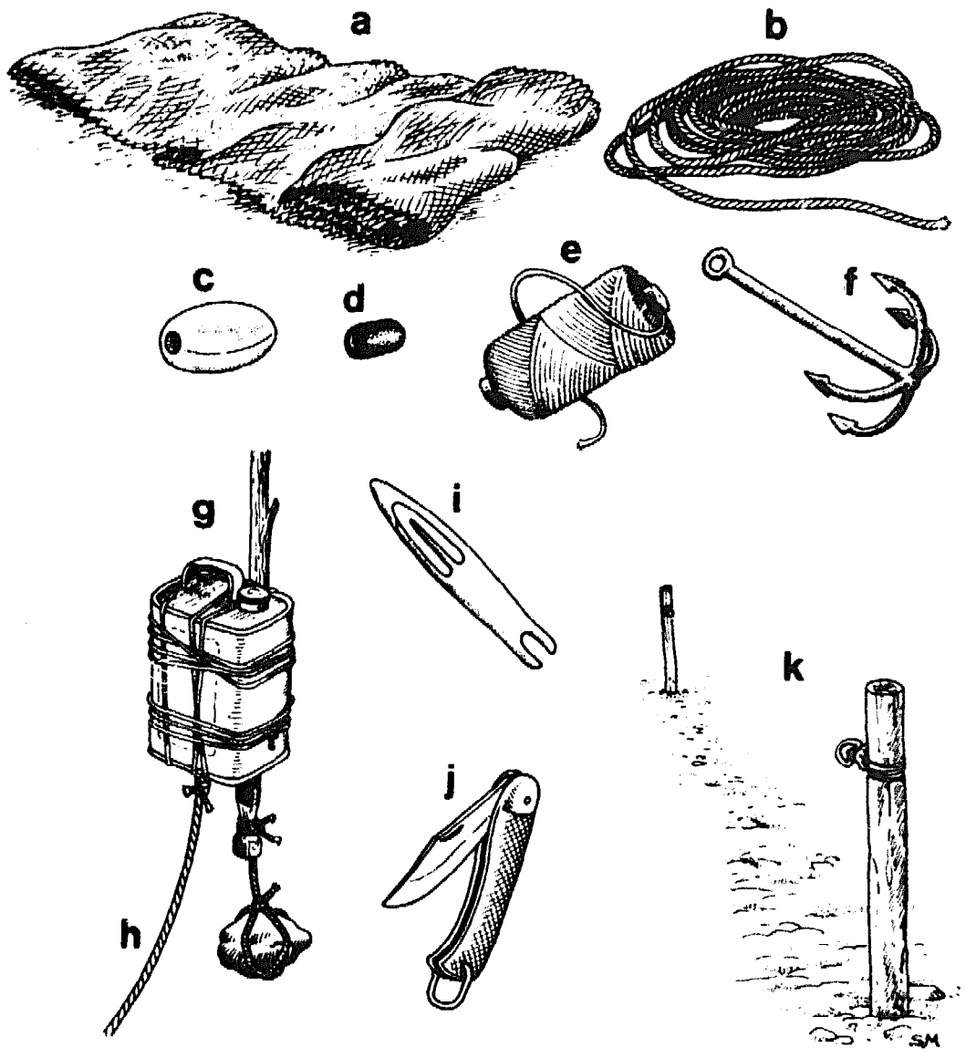


Figure 5

In the next pages you will see how to make a net, step by step. Fishermen on the west coast of Africa catch croaker with this net using boats from 5 to 7 metres long.

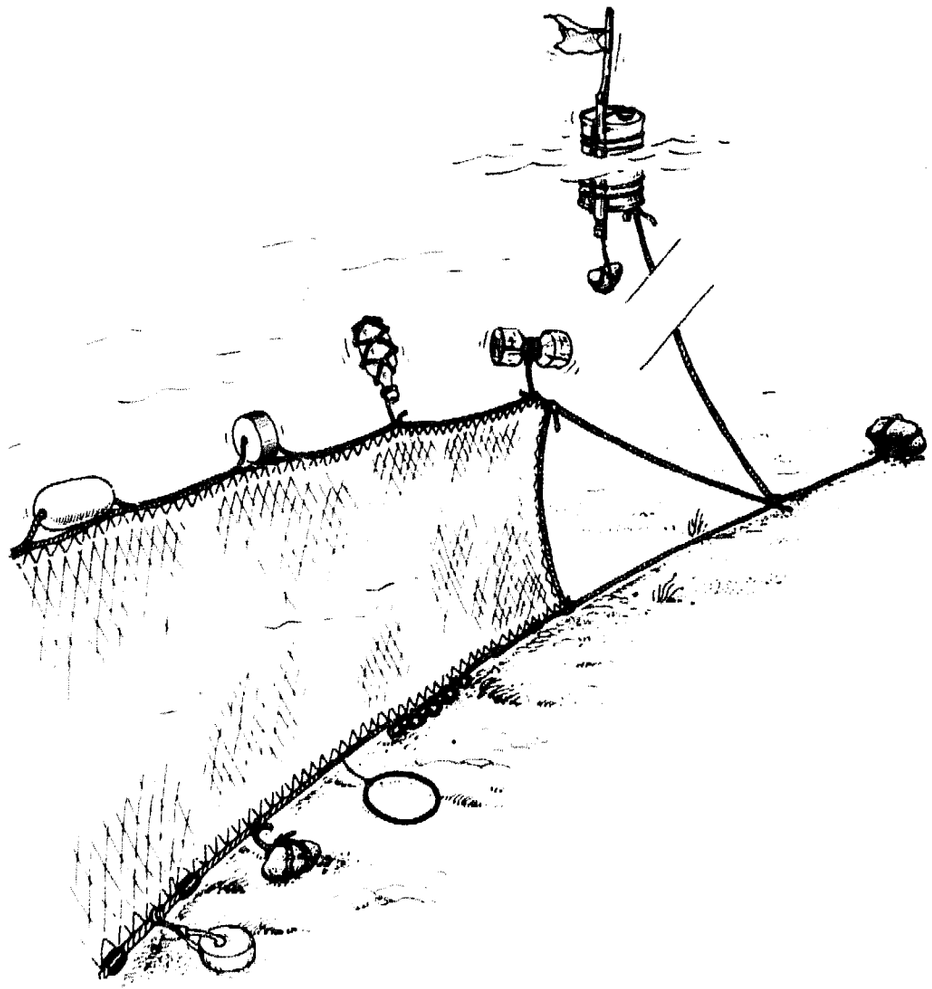


Figure 6

In the back of this booklet there are instructions making two other kinds of nets. When you are decid what kind of net to make, remember: the net must

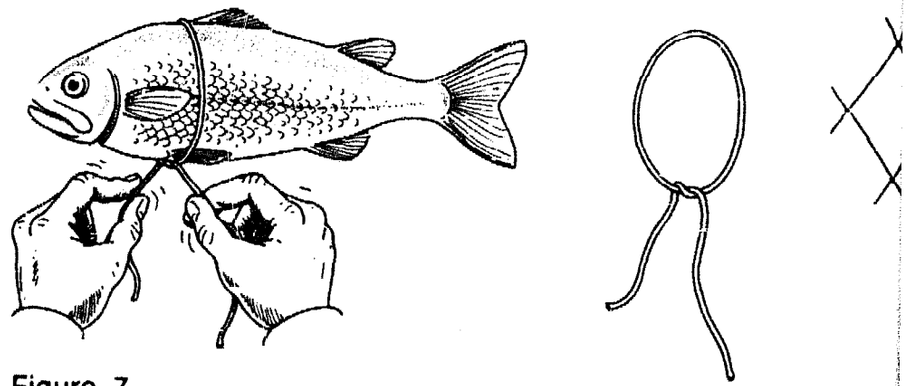


Figure 7

strong enough to hold the fish but light enough to ca them. The thinner the twine in the net the better it catch fish.

Every net must be made in the right way for the pl where you are fishing. If the bottom is very rocky the must be made to protect it from getting torn on the ro If the bottom is very soft the net must be made so th will not get stuck in the mud.

The meshes of the netting must be the right size for fish you plan to catch. To find what size is best, take a of the sort you want to catch. Choose a medium size

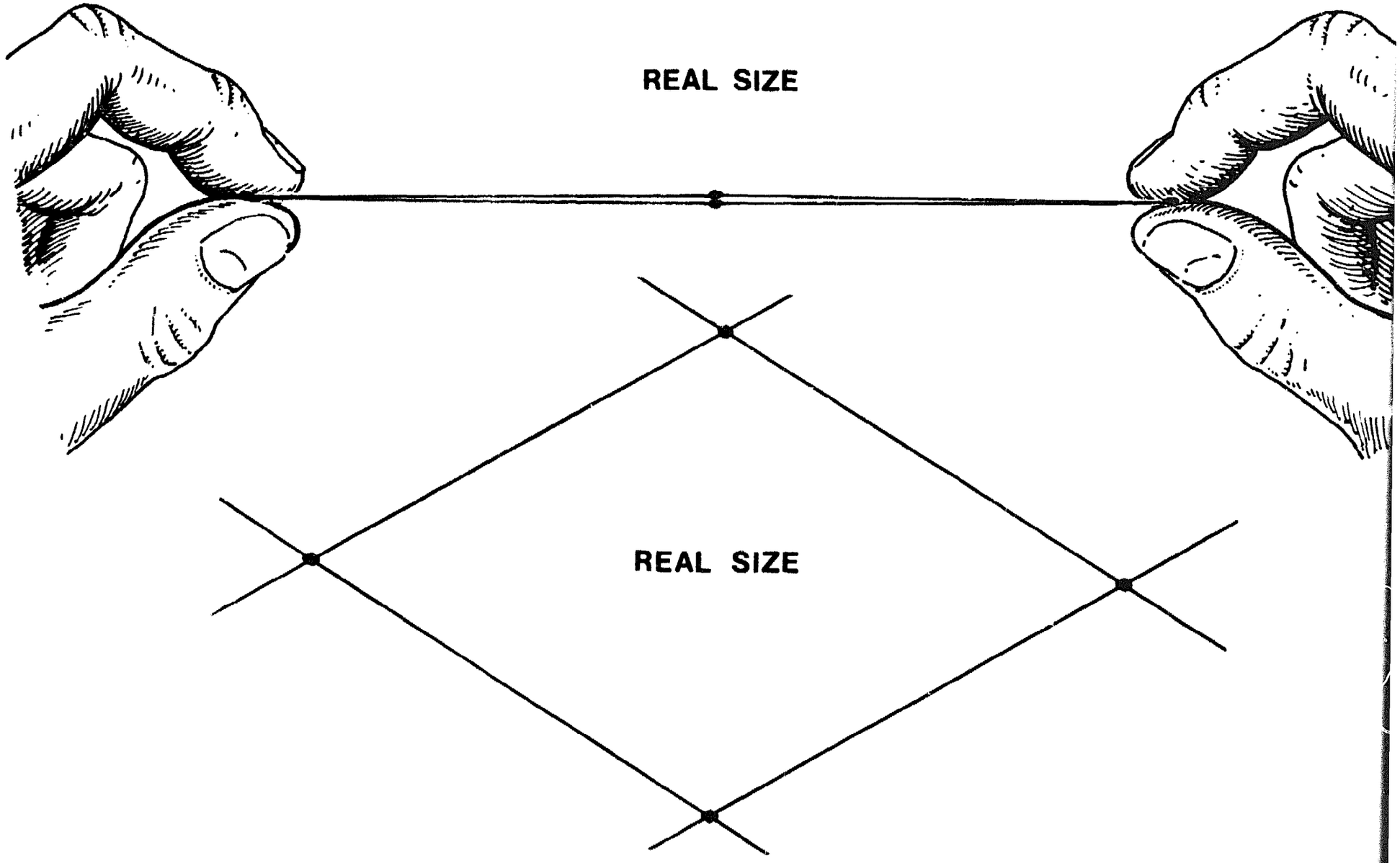


Figure 9

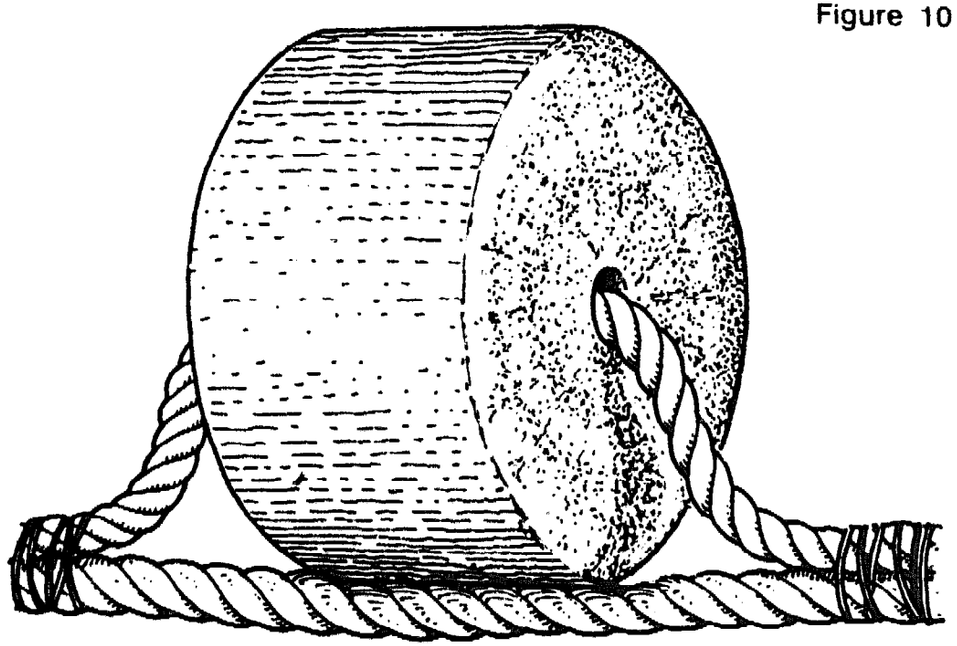
The stretched length of a mesh should be 14 centimetres. The stretched length of 10 meshes should be about 1.40 metres. Use the picture as a guide (Fig. 9). Meshes of this size will only catch fish that are 50 centimetres long or more. They work well for croakers, because croakers have a thick body.

Now measure the length of the piece of netting. Do this by stretching the edges of the netting tightly as you measure. The piece of netting you need should be about 70 metres long and 1.50 metres wide. You can also measure by counting the meshes. The piece of netting should be 500 meshes long and 11 deep. The net is not very deep, so it will not catch fish that swim high above the bottom. Croaker liver right on the bottom, so it is good for catching them.

There are many different kinds of rope that you can use for the floatline, the leadline and the anchor-rope. You need rope that is stiff enough to help give the net its shape, but soft enough to be easy to coil and handle. *Polyethylene, polypropylene* and *polyamide (nylon)* are all good kinds to use. They can be either twisted or braided. You can also use *hemp* or *manila* rope. Grass rope is not very strong and it does not last very long, but you can use it if you have nothing else. The rope you use should be 6 millimetres in diameter but thicker if it is vegetable (non-synthetic). To make the net you need about 110 metres of rope, and you will also need more rope for the anchor-ropes.

The floats you use must be big enough to lift the netting, but not so big that they lift the sinkers on the leadline. The best kind of floats are made of plastic or cork and have a hole in the middle to fasten them to the floatline. Plastic or cork floats should be about the same size as the one in the picture (Fig. 10), 6 centimetres wide and 3 centimetres thick. You might want to make your own floats with wood or old bottles. Wood floats should be tarred or painted to stop them from soaking up water.

Figure 10



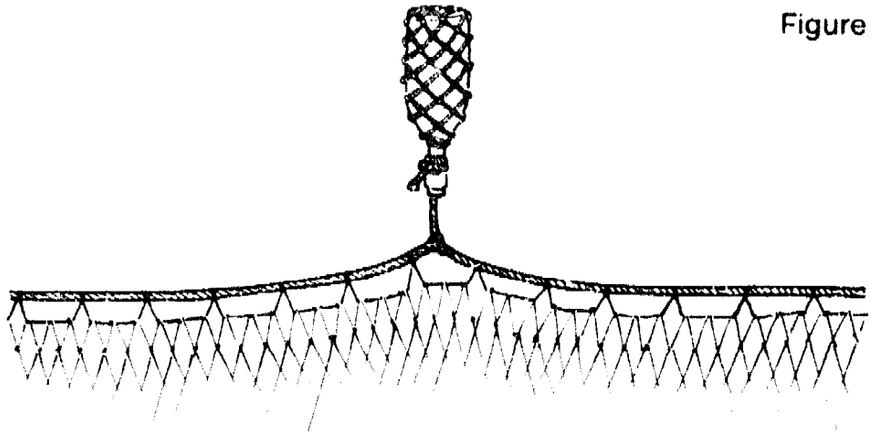
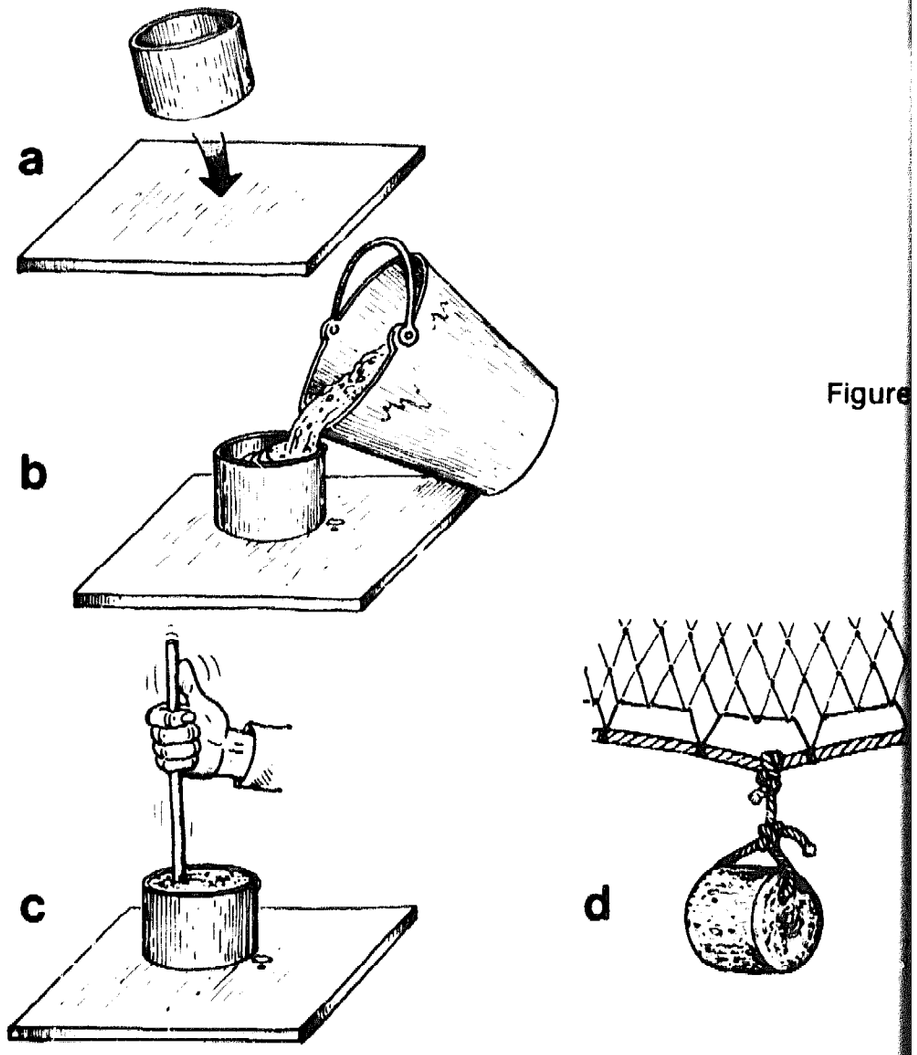


Figure 11

Bottle floats must have their holes plugged up tight and should be protected with sacks or netting (Fig. 11). If you are going to fish in water that is deeper than 20 metres you should buy cork or hard plastic floats. Home-made floats work fine in shallow water. You need 26 floats for the net and should always have some extra ones to replace floats that get lost or broken.

The sinkers along the leadline keep the floats from lifting the net off the bottom. You can use *lead, iron rings* or *chain, stone* or *concrete* (Fig. 12) to make your sinkers. Iron and stone are not as heavy in water as lead, so if you use these materials you will need more weight. If you use pieces of chain have every link of the chain well-tied (seized) to the leadline or even wrapped in canvas so that it will not catch the net. You can also use small bags full of sand as sinkers. Stones and concrete sinkers must be made smooth.

For lead sinkers use 8 kilograms - for example, 1 sinkers, each weighing 80 grams.



Figure

For iron sinkers use 12 kilograms (1 1/2 times as much as lead) - 50 sinkers, each weighing about 250 grams.

For stone, sand or concrete sinkers use 40 kilograms (five times as much as lead) - 40 sinkers, each weighing about 1 kilogram.

When you are choosing floats and sinkers for your net, remember: the sinking-power of the sinkers must be from three to five times greater than the floating-power of the floats. This means that for each float on the floatline there must be a weight in sinkers that is from three to five times more than the float can lift (Fig. 13).

The twine you use to sew the net together must be the same size as the netting twine, or a little thicker. The twine you use to attach the sinkers should be made of a natural fibre like cotton or hemp. This way, if you lose a net the twine holding the sinkers will rot and break after the net has been on the bottom for a while and the net will not go on killing fish that you could catch. If the twine does not rot, the net will go on catching fish uselessly.

The anchors at the ends of the net (or *fleet* of nets if several nets are tied together) keep it from drifting. You can use big stones for anchors. The stones should weigh about 10 kilograms. You can also have the blacksmith make you iron anchors. A small iron anchor will hold as well as a big stone.

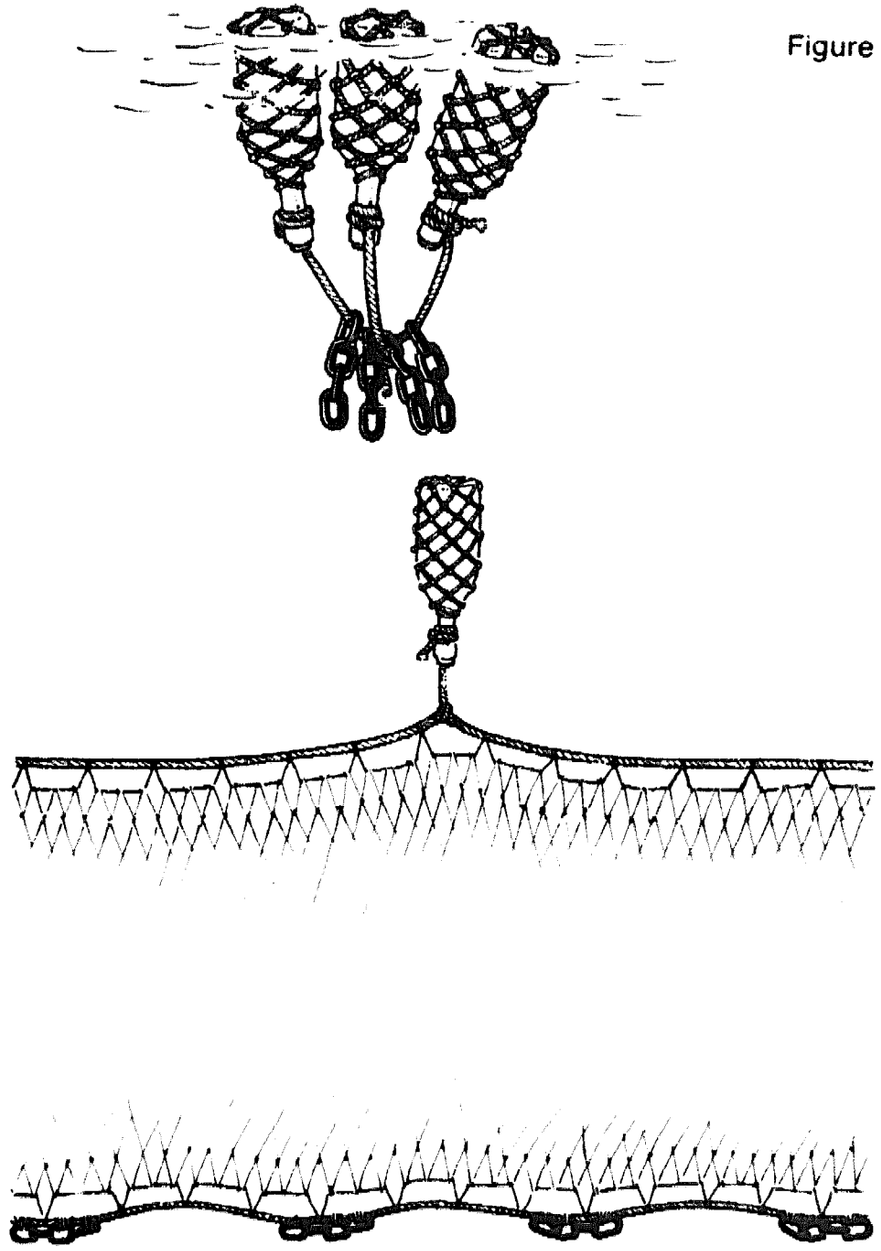


Figure 13

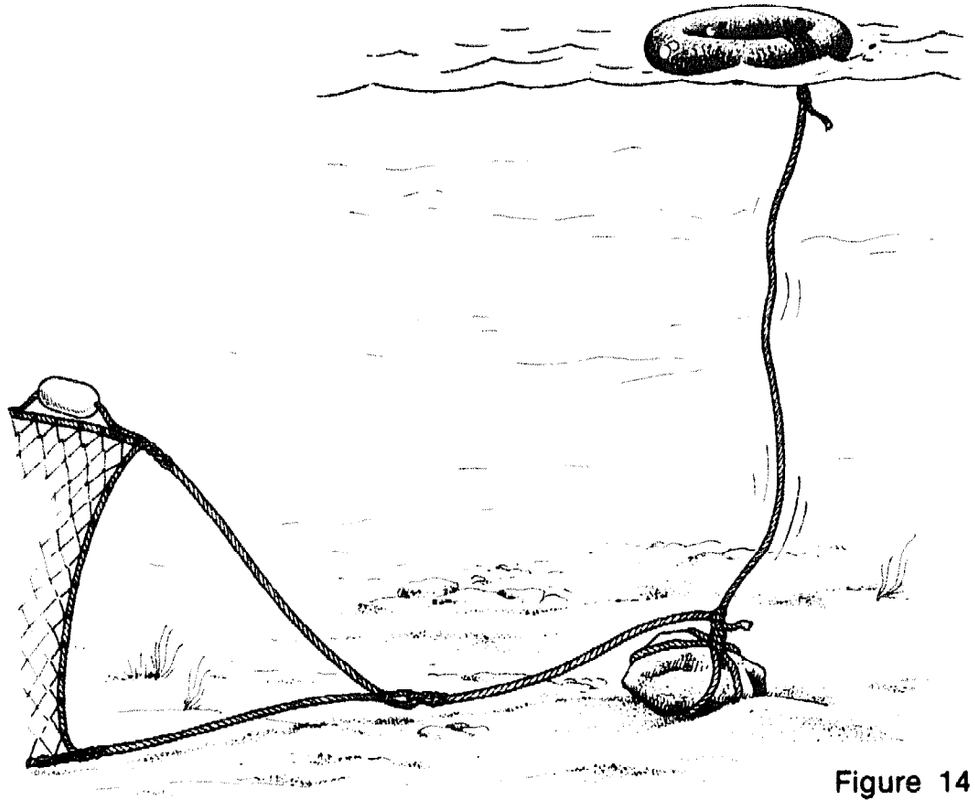
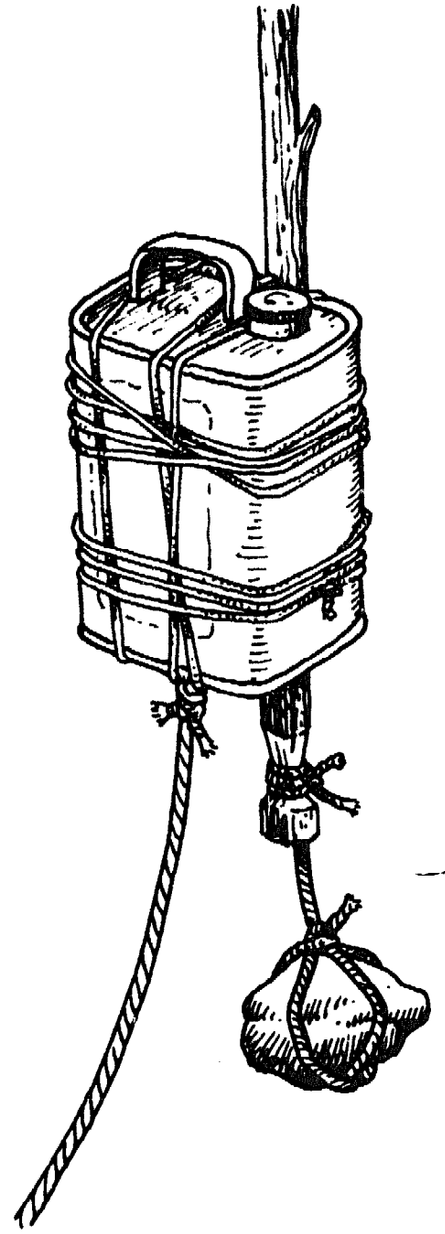


Figure 14

The buoys attached to each anchor-rope mark the place where the net is set. An innertube (Fig. 14), a tin container (Fig. 15), a light-wood log or a big plastic bottle will make a good buoy. If the buoy is painted a bright colour it will be easy to see. You can always attach to the buoy a wooden pole with a flag or a bunch of palm leaves, tree branches or any other thing that you can see from far away (Fig. 16).

Figure



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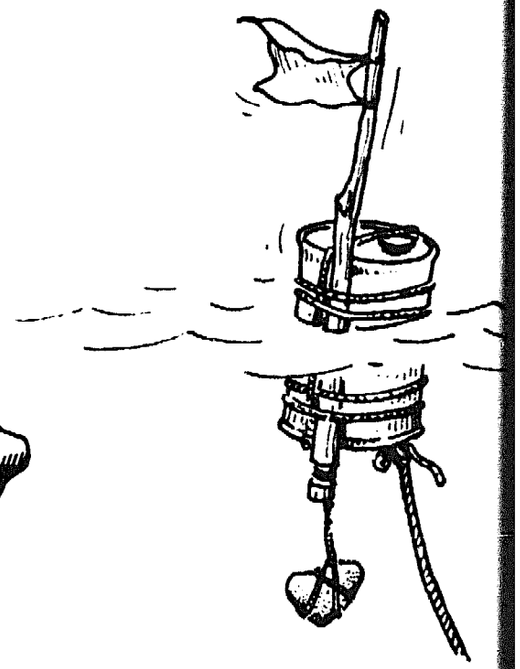


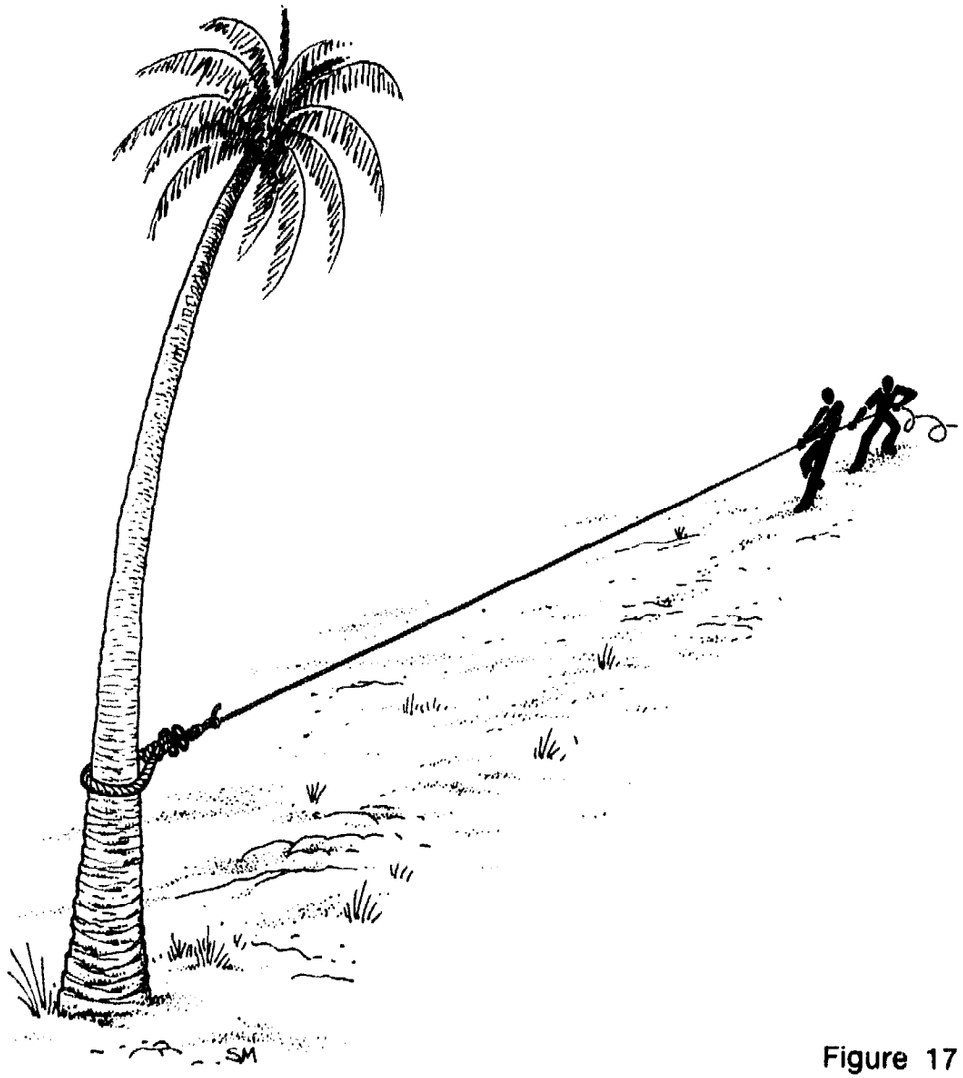


Figure 17

HOW TO MAKE THE NET

First take the rope you are going to use, soak it in water and then stretch it to get all the snarls and tangles out of it. This is easy to do with a swivel (Fig. 17). Measure out the pieces you need for the floatline and the leadline. They must each be 52 metres long. Make a mark 1 metre from each end of both pieces.

Take the prepared piece of netting and check if the side of the net is cut straight across the meshes (Fig. 18). Now the netting must be hung on the floatline and the

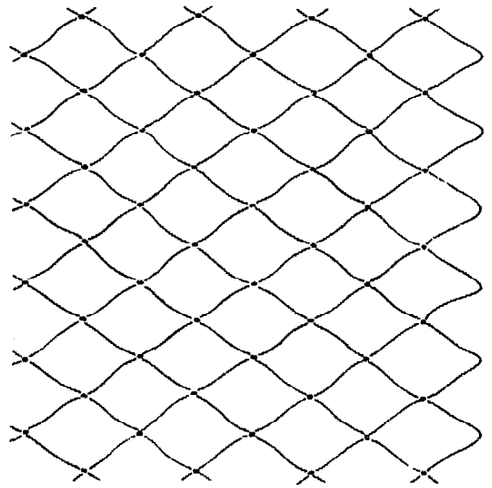


Figure 18

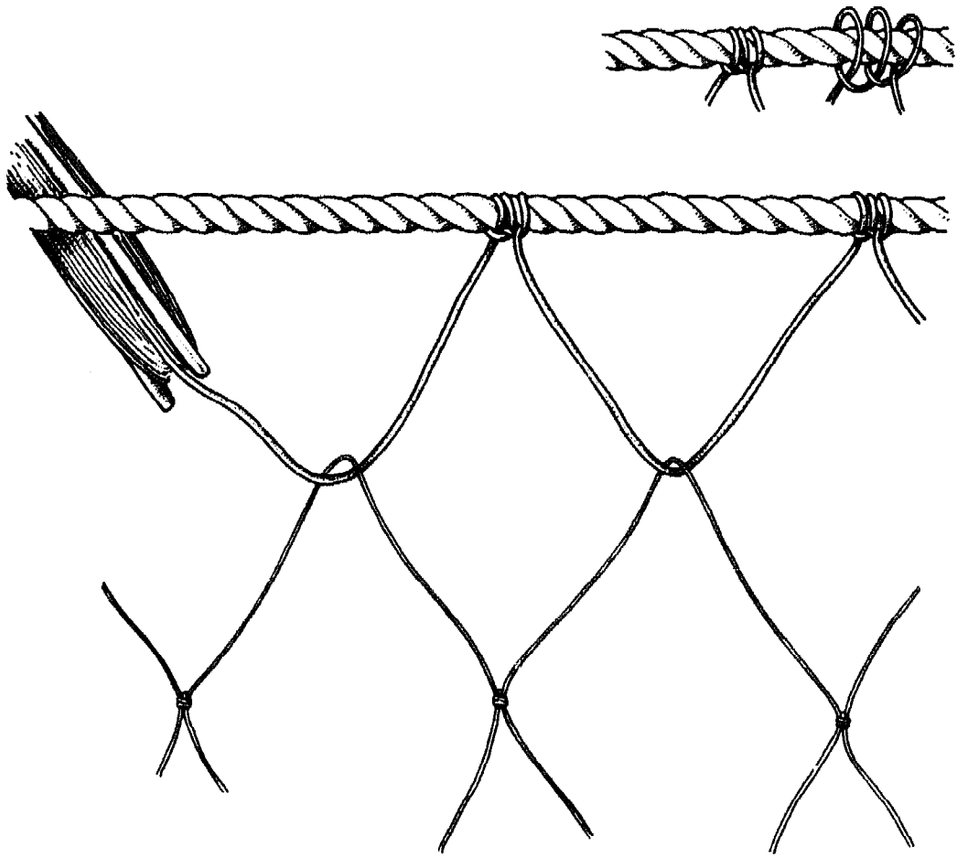


Figure 19

leadline. This is a very important part of making the net because the way the netting is hung from the lines determines the shape of all the meshes in the net. The *staples* (loops of twine) that connect the netting with the rope must be exactly the same distance apart so that all the meshes will have the same shape (Fig. 19). You must measure carefully and work slowly to begin with.

Stretch 5-10 metres of one end of the floatline tight between two posts or trees. If you are using floats wi holes in them, thread-on one float for every 2 metres line. There are various ways of hanging but this net mu be hung by stapling every mesh to the float-line. Lash t twine to the line with a rolling hitch at the mark you mad Pass the twine through the first mesh on the corner of t piece of netting and lash the twine to the floatline at spot 10 centimetres from the first lashing. If you cut piece of wood 10-centimetres long you can measu easily. The mesh is now hanging from the floatline by staple (loop) of twine. The staple should be at least long as the stretched length of one mesh.

Now pass the twine through the next mesh and lash to the floatline 10 centimetres further along. Continue li this until you have hung the net all along the line betwe the two posts. Make sure that all the staples are the sa length and that they are lashed to the line exactly centimetres apart.

When you reach the end of the first part of the floatli take it down and stretch out a second part. Make sure t you stretch the second part just as tightly as the first. Y can now do exactly what you did before. Do this aga and until you have the netting hung all along the floatli You should stop when you reach the mark you made the other end of the line when you measured it. If you not have quite enough netting it does not matter, bu

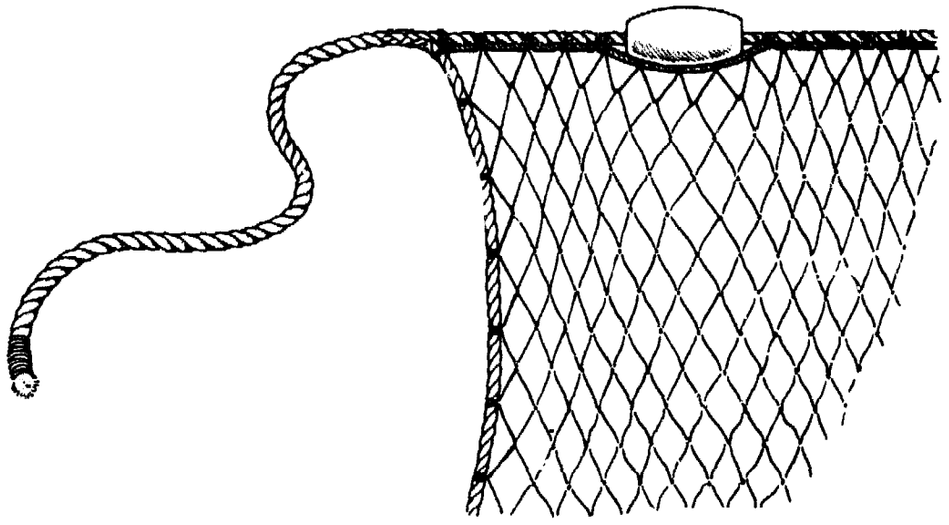


Figure 20

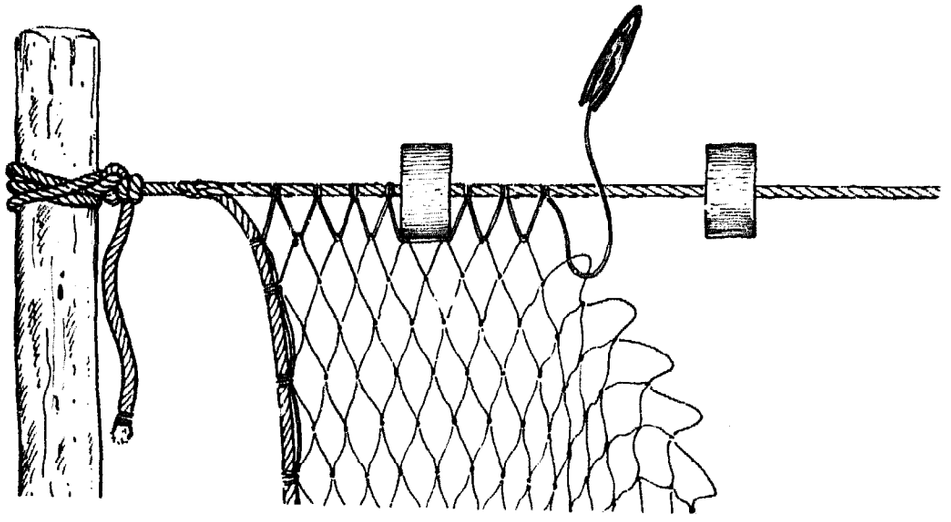


Figure 21

you have more than two or three extra meshes you should cut away the extra netting so that you have 1 metre of free line at each end of the net (Fig. 20).

If you are using floats with holes in them they should be 2 metres apart all along the floatline. When you come to a place where you want to put a float just pass the staple around it (Fig. 21). For this net there should be a float at the first and last staples, and at every twentieth staple. If the float is long, you may skip one, two or even three staples as shown on the picture (Fig. 22).

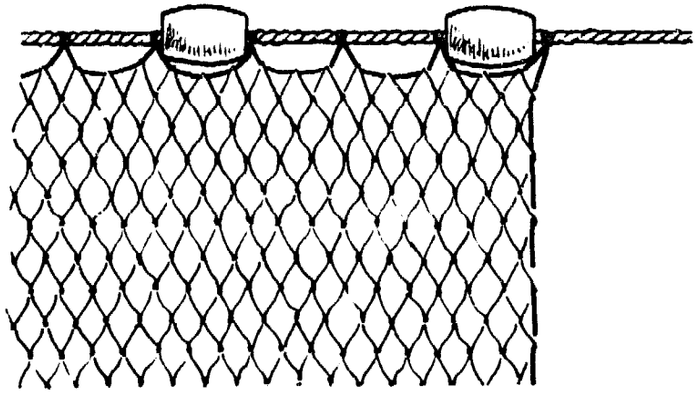


Figure 22

When the floatline has been hung you can hang the leadline. This is done in exactly the same way (Fig. 23). If you are using lead sinkers with holes in them you should thread-on two sinkers for every metre of line and place the sinkers 50 centimetres (or five staples) apart.

Remember you can hang gillnets also by taking up more than one mesh per staple (Fig. 24). Depending on

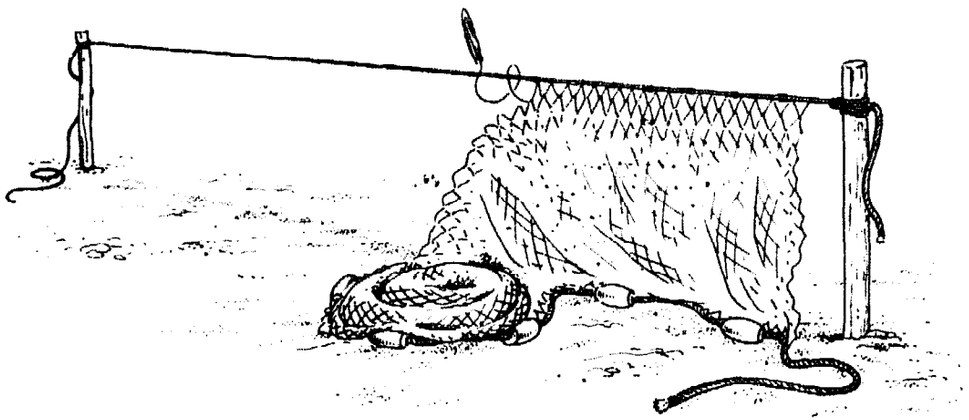
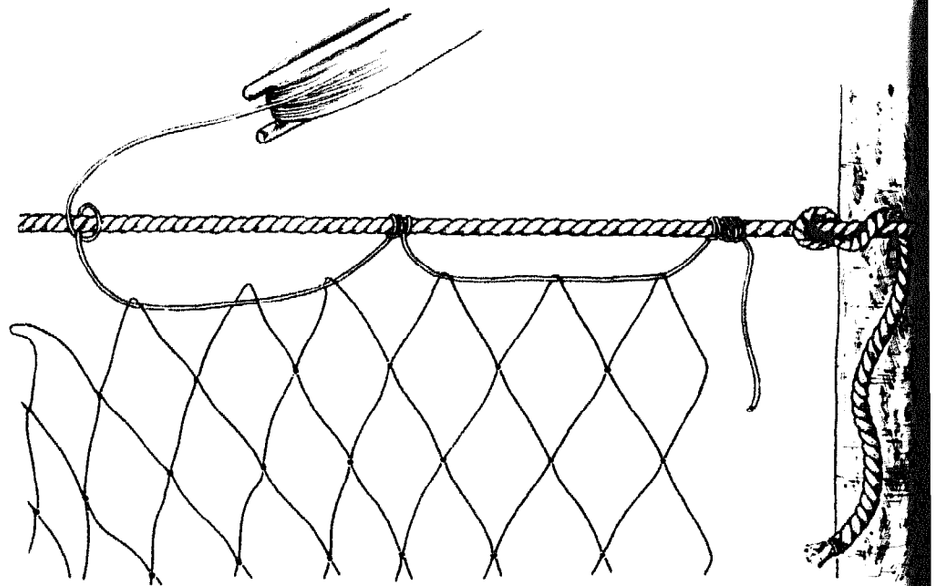


Figure 23

how small the meshes are you can take up two, three or even four meshes with one staple.

The last step in hanging the net is to attach a *gavel* (Fig. 25) to each end of the net. For each gavel take a piece of rope 1.50 metres long and splice it into the free end of the floatline, which extends beyond the netting. The splice should begin right at the place where the netting ends.



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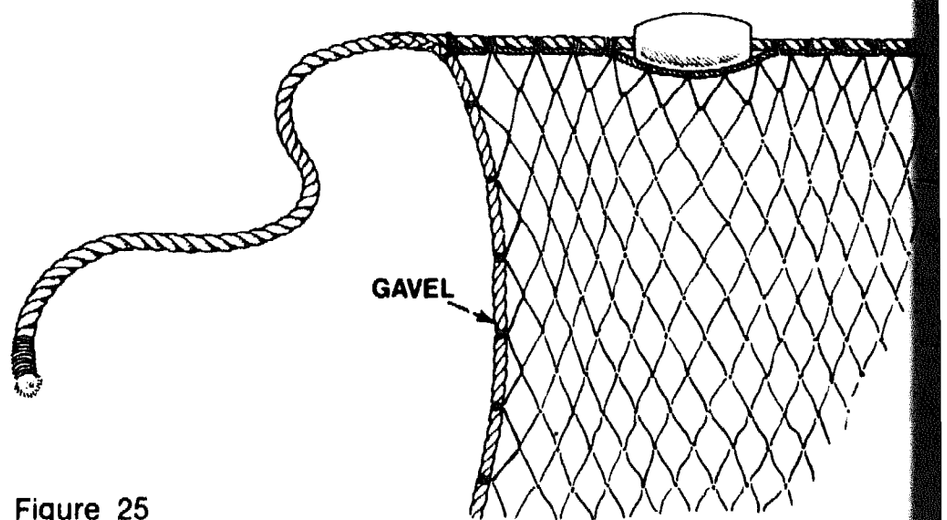


Figure 25

Starting from the floatline, lash the side meshes of the netting onto the gavel. Each mesh must be 10 centimetres apart. When you reach the leadline cut away the extra rope leaving a piece long enough for a splice. Do the same for both ends of the net.

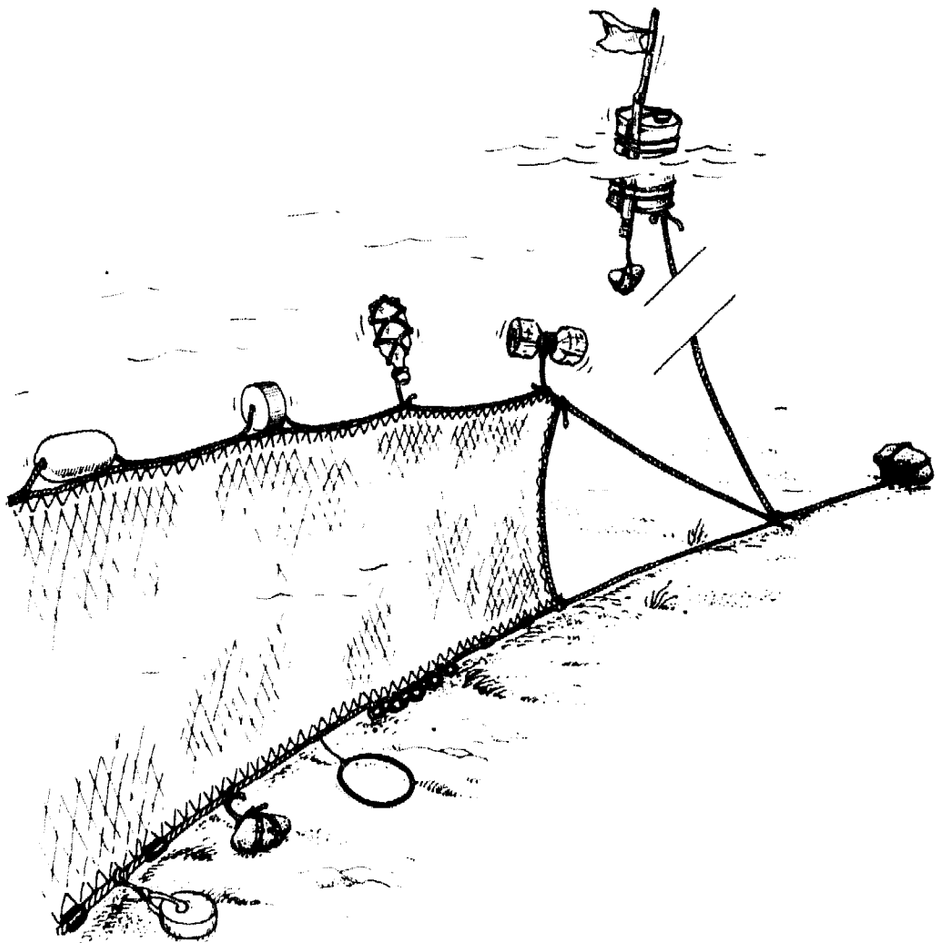


Figure 26

Floats made from wood or bottles can be attached to the floatline with short pieces of heavy twine (Fig. 26). Another way to attach the floats is to take a piece of rope the same length as the net (50 metres) and attach all the floats to it. This rope is then lashed all along the floatline (Fig. 27). If you have two sets of floats like this you can leave one set to dry while you fish with the other set. The 26 floats should be placed 2 metres apart all along the floatline.

The way you fasten the sinkers to the leadline depends on what kind you use (lead, iron or stone) and what kind of bottom there is where you fish.

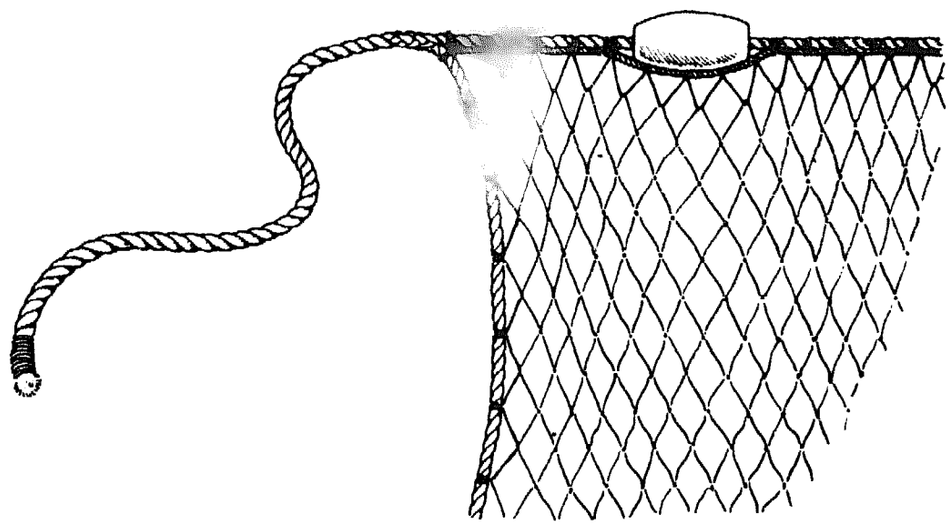


Figure 27

On a smooth, sandy bottom, sinkers made of lead sheeting can be attached directly to the leadline by hammering them around the rope. Short pieces of iron rod or chain can be lashed onto the leadline. Stone sinkers can be tied to the leadline with short loops of heavy twine (Fig. 28).

On rocky bottoms it is best to use fewer, heavier sinkers. It is best not to use expensive sinkers because it is easy to lose them on rocky bottoms. Use sinkers made of iron rings or stone. Fasten the sinkers to the leadline with long loops of heavy twine. If the bottom is very rocky you can attach the sinkers with extra-long (1-2 metres) loops of twine so that the leadline will float clear of the rocks when the net is set. If the net is too far off the bottom many fish will swim under and escape, so you will have to find the best way both to keep the net from getting stuck on the rocks and still catch fish (Fig. 28).

On very soft bottoms where the leadline sinks into the mud use a thick piece of rope whipped with hemp twine instead of sinkers (Fig. 29). Put pieces of iron or lead inside the whipping and fasten the rope to the leadline with heavy twine. Do not use stone sinkers if the bottom is very soft; use large mussel shells instead.

If possible, the floats and sinkers should be round and smooth. Pointed or jagged floats and sinkers will tangle your net and give you plenty of trouble. It is best if your

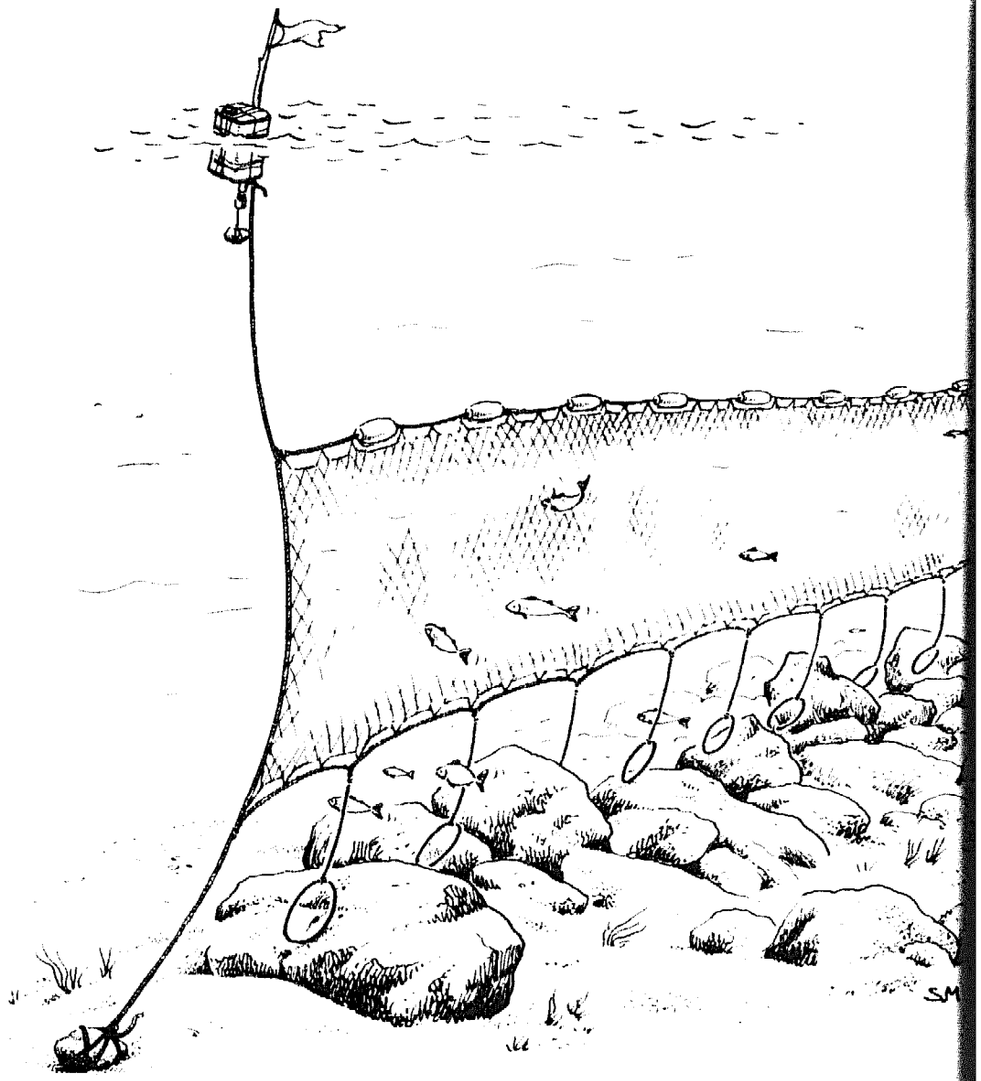


Figure 28

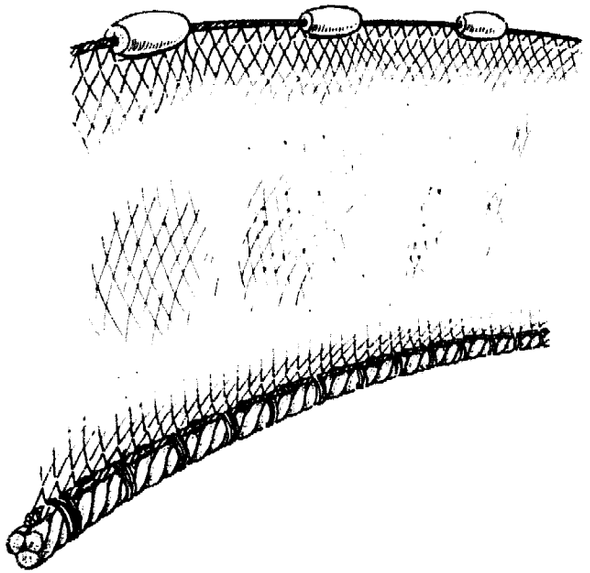


Figure 29

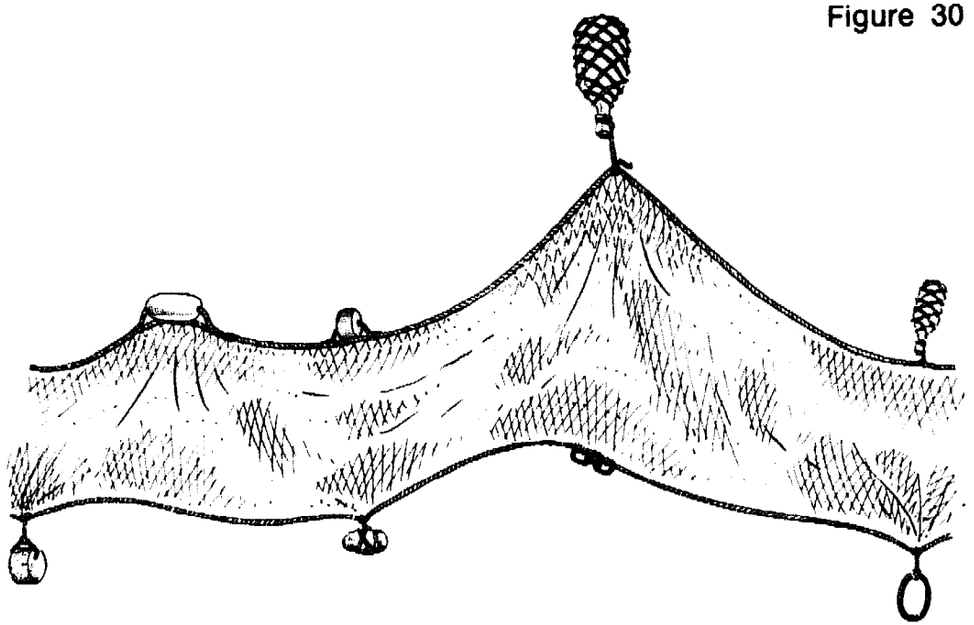


Figure 30

sinkers all have the same weight and you floats all have the same *buoyancy*, or lifting power. You can see in the picture (Fig. 30) what happens if the floats and sinkers have very different weights and buoyancies.

HOW TO FISH WITH A BOTTOM-SET GILLNET

You must learn to use the nets you make in the best way. The first thing to do after you have made your nets is to put your boat in proper order for fishing. Your boat can be any size. A canoe or a flat-bottomed skiff is fine for fishing in lakes or rivers. A big canoe or boat of 5-7 metres is good for inshore fishing in the ocean. A big boat of 12-15 metres can be used for fishing far from land and staying out for more than one day at a time (Fig. 31).

Figure 31

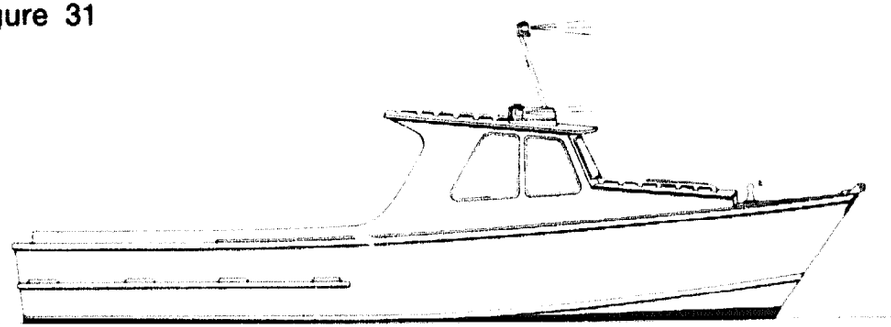
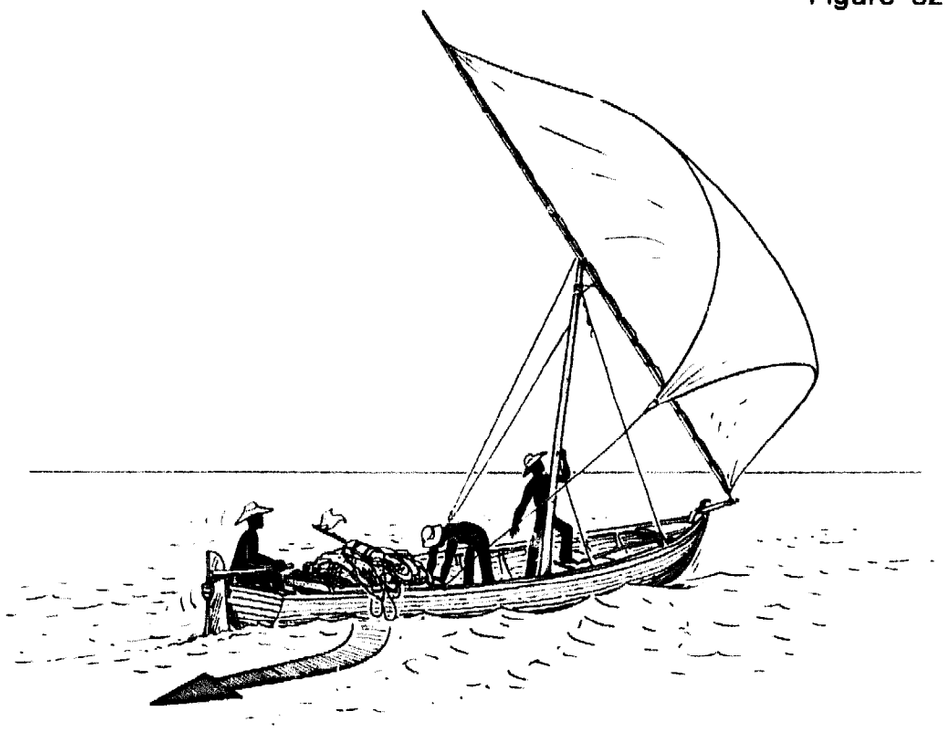


Figure 32

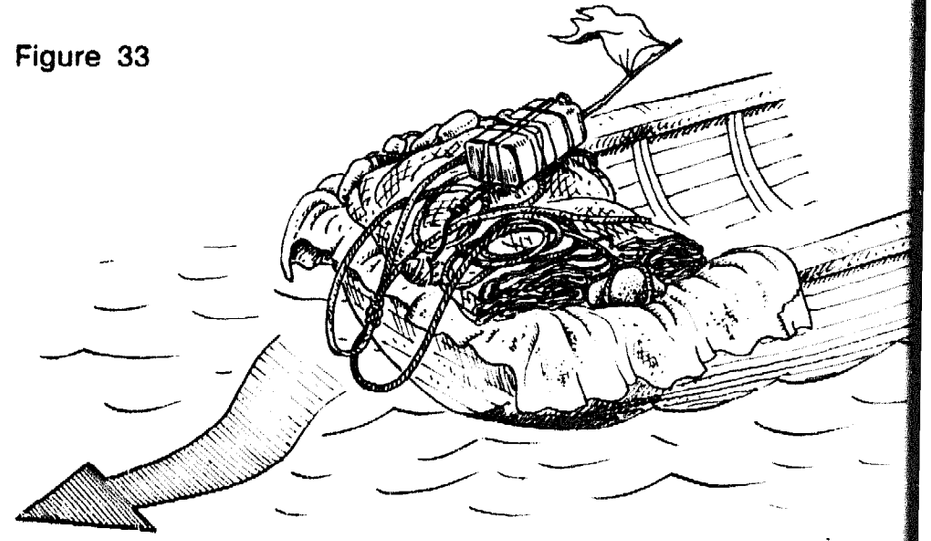


Sometimes it is good to have an engine, either inboard or outboard. It will save you work and let you go further to find fish. But an engine is expensive to buy and use. You will have to catch a lot of fish to pay for it. You do not have to have an engine to fish with bottom-set gillnets. Paddles, oars or sails are good too. Even if you get an engine you should keep your oars and sails. Use them when there is a good wind or when you are not in a hurry. This way you can save fuel and money (Fig. 32). With a small boat it is best to rely on oars or sails.

There should be a clean space in the back of your b to keep the nets. There should be no nails or sharp bit wood that can snag (catch) the nets. In a small boat canoe you can put the nets in a big tub or basket or co them with canvas. If you use many nets you will nee box with a lid on it where you can keep out of the way nets you are not using. You should also have a cle place to keep the fish in. A box with a lid is best, if y have enough space for it.

When you are *setting* (putting out) and *hauling* (tak in) the nets they will pass over the sides or the stern of boat. If there are nails or any sharp edges on the side the boat the nets will get snagged as they pass over. T will get torn and give you plenty of trouble when you

Figure 33



fishing. Be sure that the sides and the stern of the boat are smooth and clean. It is a good idea to put a round log or a piece of canvas on the side of the boat to make sure that the nets will not snag (Figs. 33 and 34).

When your boat is in order you can go out and set the nets. The first few times you use the nets it is best to pick a spot where the bottom is smooth and free from *fasteners* (rocks, big logs or anything that will snag the net on the bottom). It is good to set the nets in shallow water the first time so you can check to be sure the floats and the sinkers are holding the net in the right way. Prepare your nets by stacking them neatly in the back of the boat. In a boat with a pointed stern, the floats should be facing the front of the boat and the sinkers facing the back (Fig 34). When you come to the spot where you want to set the nets, see which way the wind and the currents are moving. If the wind or current is strong you will have to set the nets in the same direction. If the current is weak it is a good idea to set the nets across it (Fig. 35).

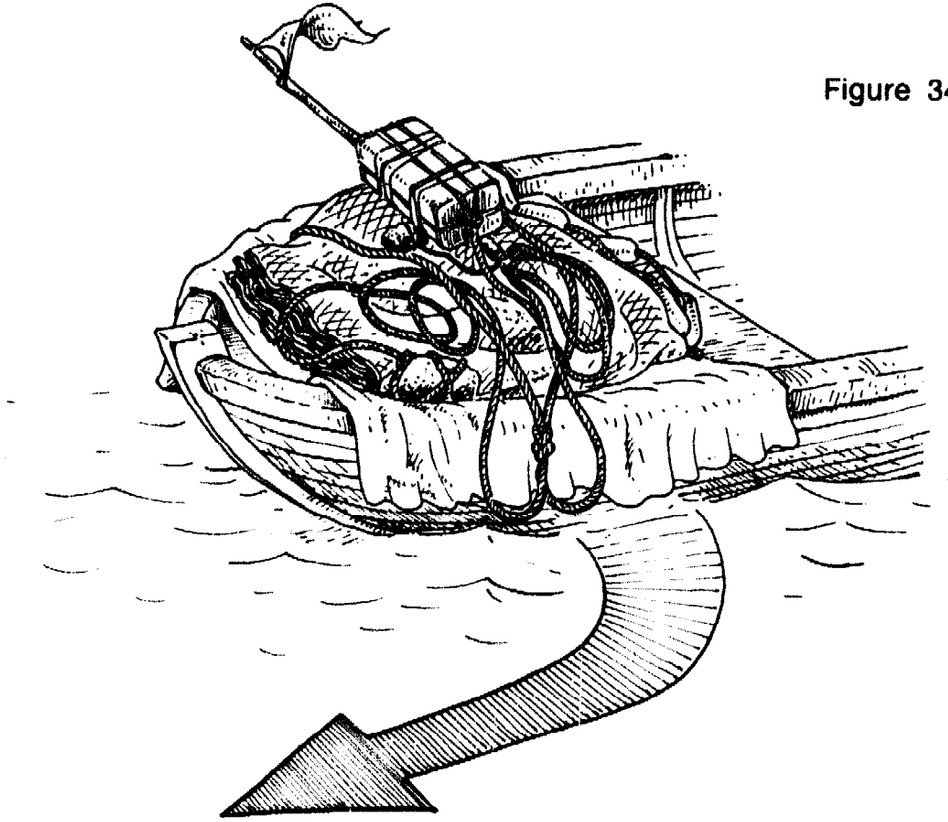
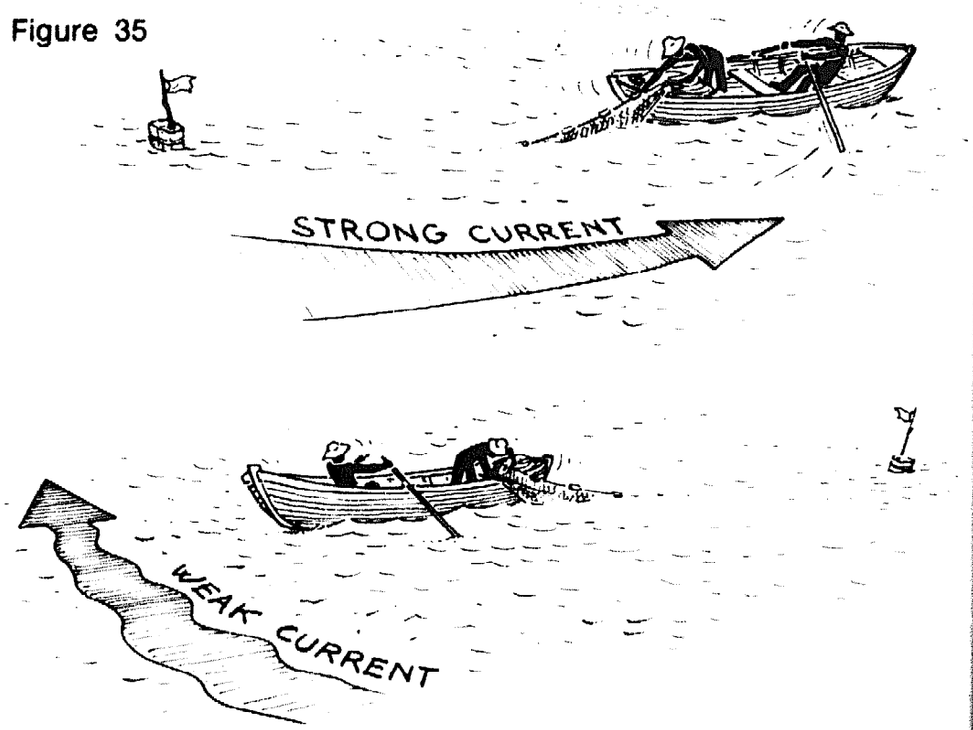


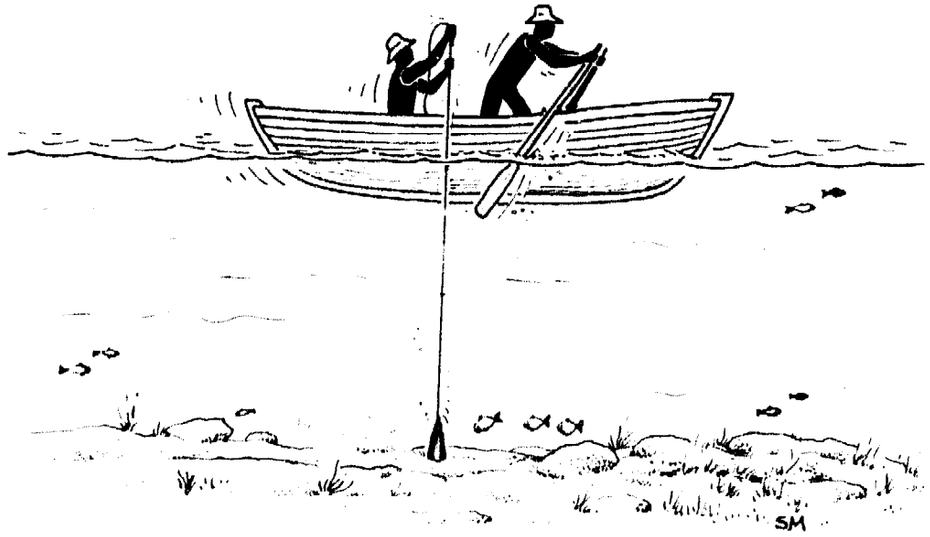
Figure 34

Figure 35



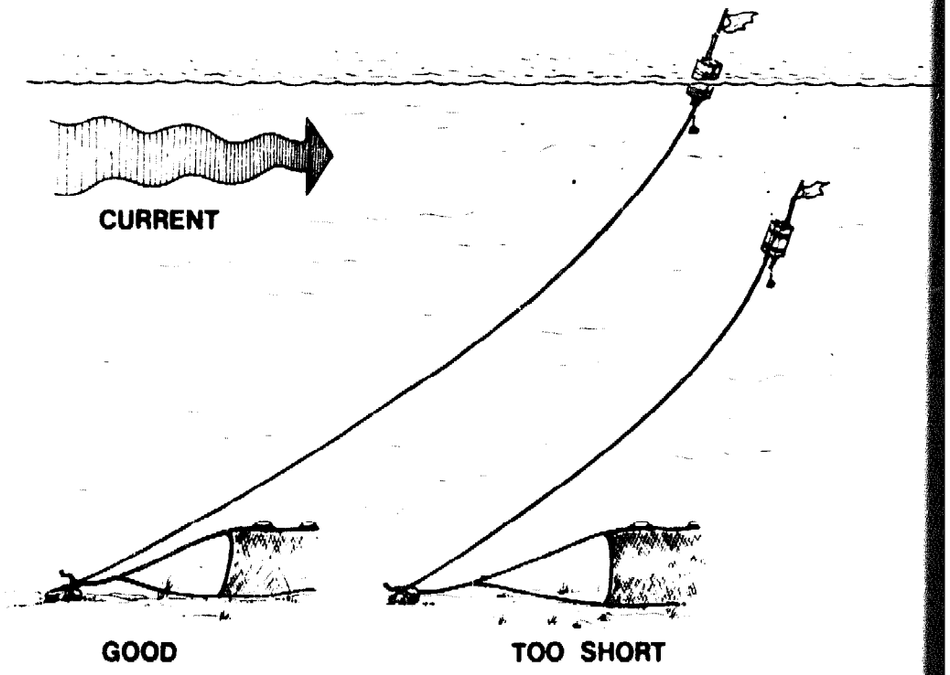
Find out how deep the water is by *sounding*. Tie a weight to the end of a thin rope that has been marked to show how long it is. Drop the weight into the water and see how much rope has gone out when the weight reaches the bottom. If the boat is moving with the wind or current you must throw the weight ahead so that the rope will be straight up-and-down (Fig. 36) when the weight is on the bottom. If you put grease or tar on the bottom of the weight it will pick up sand or mud from the bottom and you can tell if the bottom is hard or soft.

Figure 36



Your buoy-ropes must be longer than the water is deep. If the tide rises or a strong current starts after you have set the nets your buoys can be pulled under the water. To be safe, the buoy-ropes should be at least one and a half times the depth of the water in shallow water and 30 metres more than the depth in deep water (Fig. 37). Attach the anchor-rope to the end of the floatline that extends beyond the netting, but make sure there is enough rope between the anchor and the netting so that the anchor will not get tangled in the net when you haul it.

Figure 37



First make sure that your buoy-rope is long enough, then drop the buoy over the side and let the anchor-rope go until it is all out. Throw the anchor clear of the boat and go ahead slowly. The net should go out over the side of the boat that faces the wind. In a small boat or canoe with an outboard engine it is best to take the propeller out of the water and row or paddle. It is easiest if there is one person to row or steer while another person makes sure that the sinkers and floats do not become tangled in the netting. This person should watch the net as it goes down into the water to make sure the floats stay on top and the lines do not get crossed. The person steering should be ready to stop the boat if there is any trouble with the net (Fig. 38).

When you haul the net, pull in the anchor and the net over the front of the boat. Watch the net as it is coming up through the water. When you see that there are fish in the net, be ready with a long pole with a hook or a dip net on the end to catch any fish that slip out of the net (Fig. 39).

Figure 38

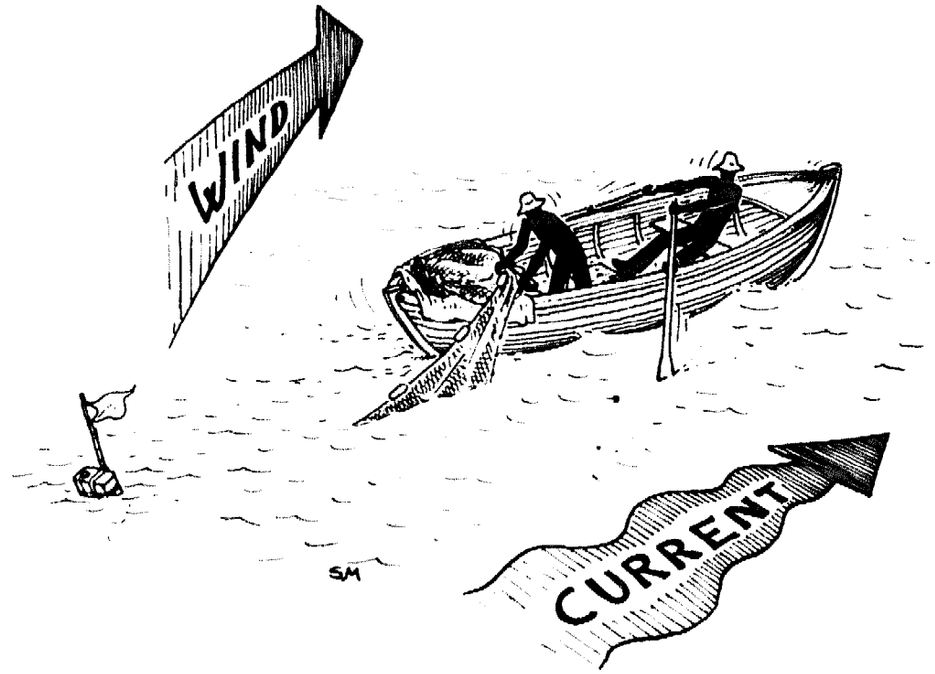


Figure 39

If the net gets stuck on the bottom (Fig. 40a) the first thing to do is to let out some of the net you have already taken in so the net hangs loosely in the water. Then move the boat about 25 metres to one side (Fig. 40b) and pull the net in quickly. Try this several times from both sides. Often the net will come loose from the fastener (Fig. 40c).

Usually when a net gets stuck what has happened is that the leadline or one of the sinkers has gone under a big log or stone. If the net will not come loose you must break it loose by breaking the leadline or the piece o twine that holds the sinker to it. If you have a large boa with a powerful engine you will usually be able to free th net by tying it to the boat and going ahead until the ne breaks loose. Be careful not to get the net in your pro peller while you go ahead (Fig. 41a).

With a small boat it is more difficult to free the net. I calm weather make the boat lean over to one side, pull th net as tight as you can, tie it to the side of the boat neares

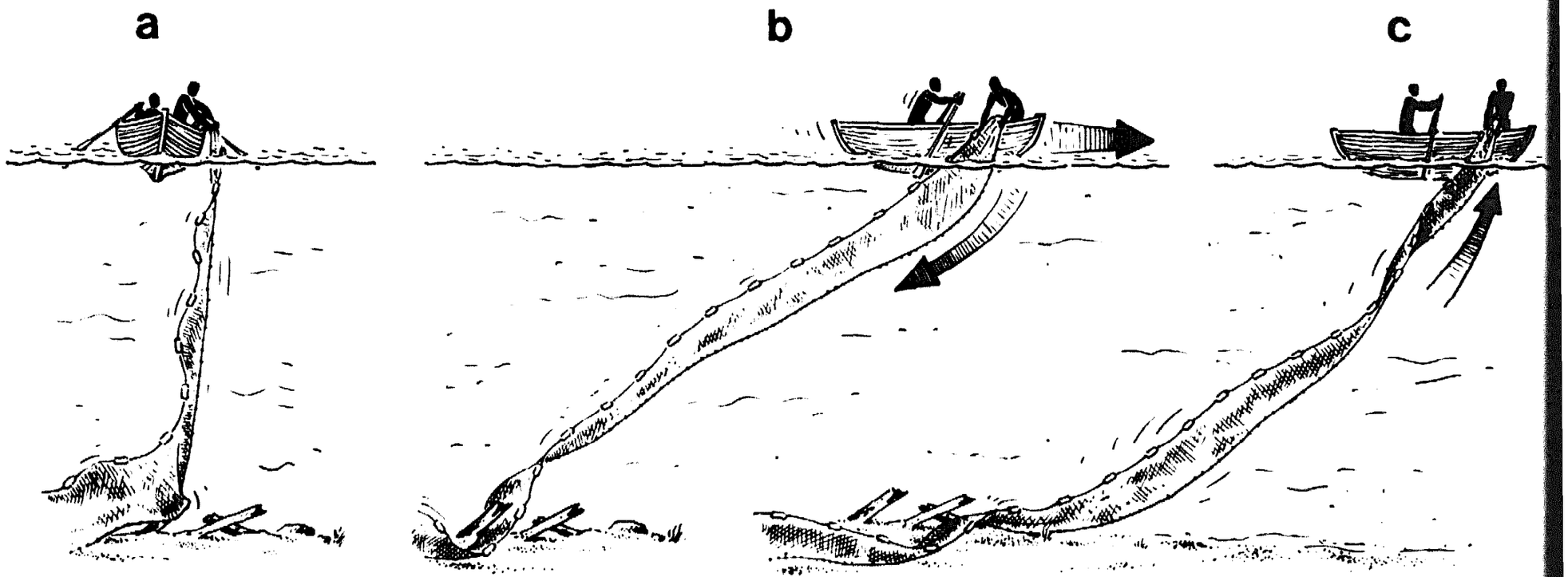


Figure 40

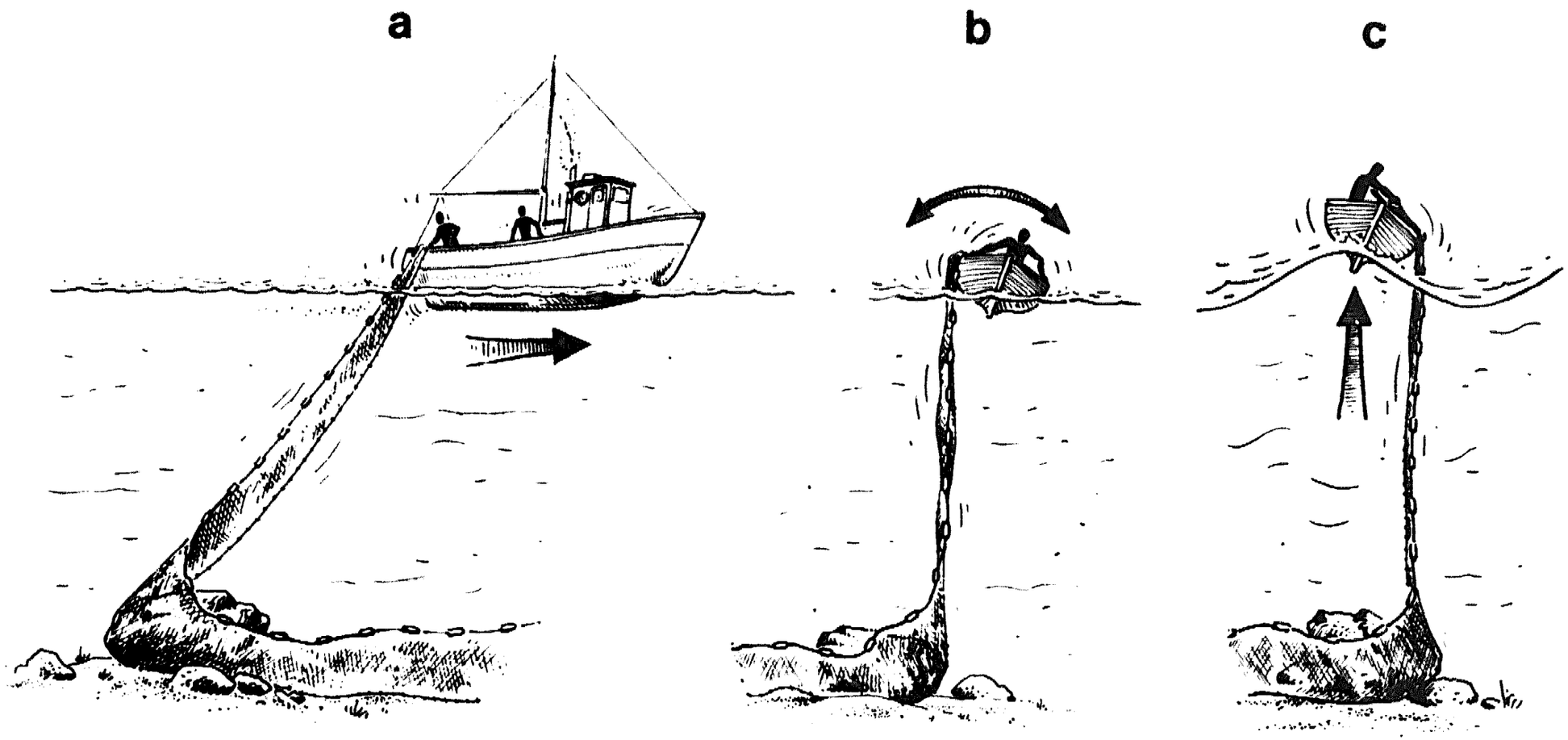


Figure 41

to the water and rock the boat in the opposite direction until the net breaks free (Fig. 41b).

In rough weather wait until the boat goes down in the trough of a wave. Quickly pull in the net as tight as you can and tie it to the side of the boat. When the next wave lifts the boat it will also pull the net and will often break it loose (Fig. 41c).

It is also possible to dive down and free the net by hand. If you dive, make sure the net is hanging loosely in the water first. Pull yourself down along the leadline until you come to the place where the net is stuck. You can usually pull it off or cut it off the fastener. *Be careful*! Wear a diving mask so you can see what you are doing and keep your head and body away from the netting. It is much better to lose a net than to end up caught like a fish!

If nothing you try works and the net stays stuck, pull the net in tight and cut it loose, either at the top of the water or as deeply as you can dive. Then go to the other end of the net and pull it in from there until you reach the place where the net is stuck. Try to free the net again, if you cannot break it loose, cut the other end. Although you lost a piece of the net, you didn't lose the whole net.

THINGS TO KNOW ABOUT FISHING WITH A BOTTOM-SET GILLNET

To catch fish with your nets you must know many things about the fish you want to catch. You must know where the fish like to live, when the fish can be found there at different seasons of the year, what time of day to set and haul the nets, and how the nets can be set to trap fish. All these things will be different depending on where you fish and what kind of fish you want to catch, so you must find out for yourself what is best. Here are a few things that will help you find out how to catch the mo fish.

Many fish that live on the bottom like to be arou rocks or weeds where they have places to hide and ple to eat. Some fish hide in the rocks in the day and co out at night to eat. Find out what the bottom is like different places by diving or looking down in the wat Find out where there are rocks, weeds or other plac where fish are likely to gather. Learn the habits of the fi by setting the nets in different places to see what kind fish you catch (Fig. 42).

It is best if the fish cannot see the nets in the water they will not try to avoid the meshes. Set you nets wh the sun is going down and haul them in the early morni so there will be no light for the fish to see by. If there a many sharks or big fish that can tear the nets, you must careful not to leave the nets in the water too long. Sha are attracted to fish that struggle in the nets. There will less trouble with sharks if you haul the nets once duri the night, take the fish out and set the nets again. Anot problem is that if fish stay caught in the net too long th will rot. By hauling the net at different times during t night you may find that you catch the most fish in a per of a few hours during the night. In this case it is best leave the net in the water for only those hours when t most fish are caught. This way you will have less trou with fish turning rotten in the net.

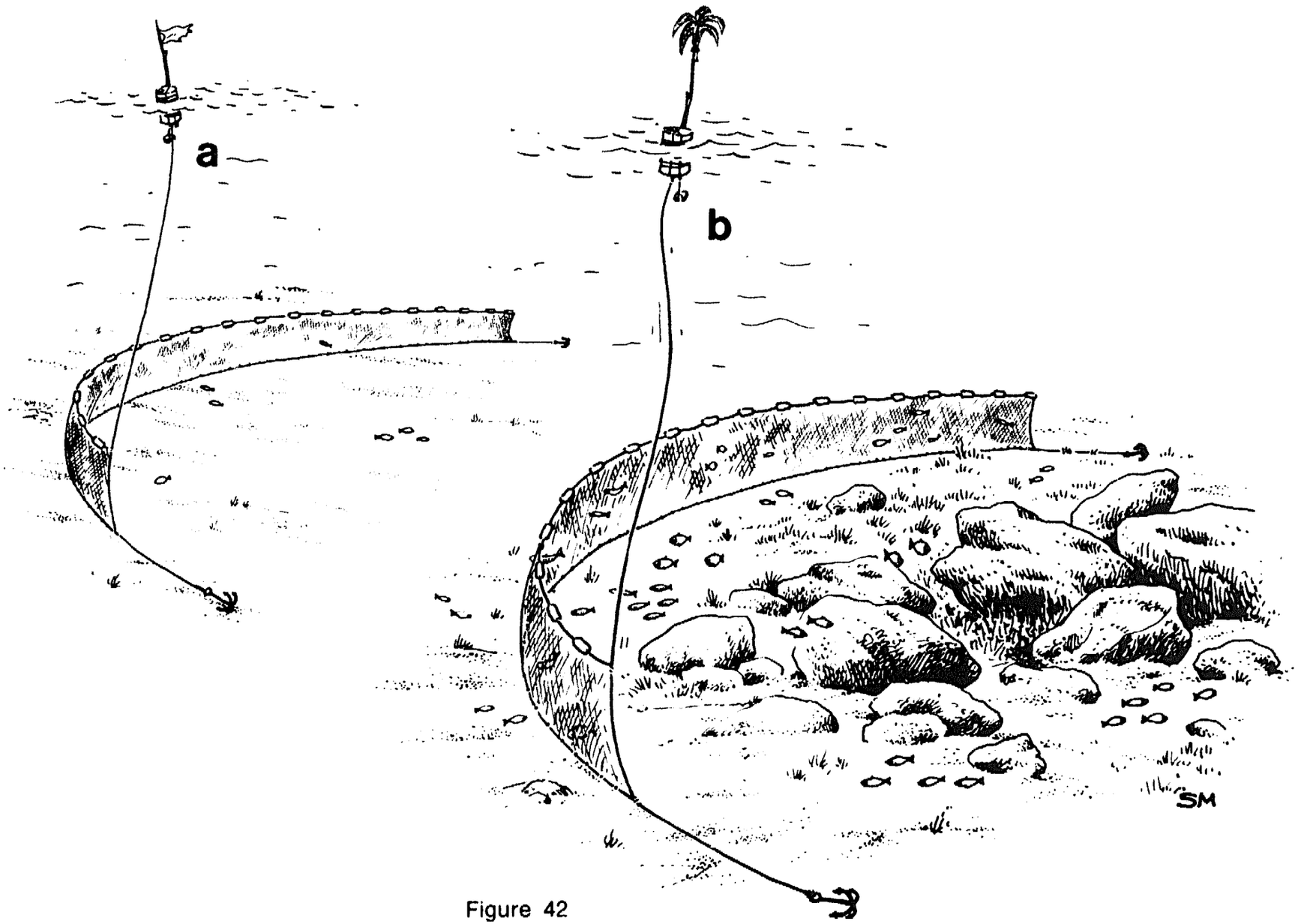


Figure 42

The nets described in this booklet are only about 50 metres long. It is possible to make longer nets or to tie several nets together in a fleet. In a place where there are many fish, the longer your net or fleet of nets is, the more fish you will catch (Fig. 43).

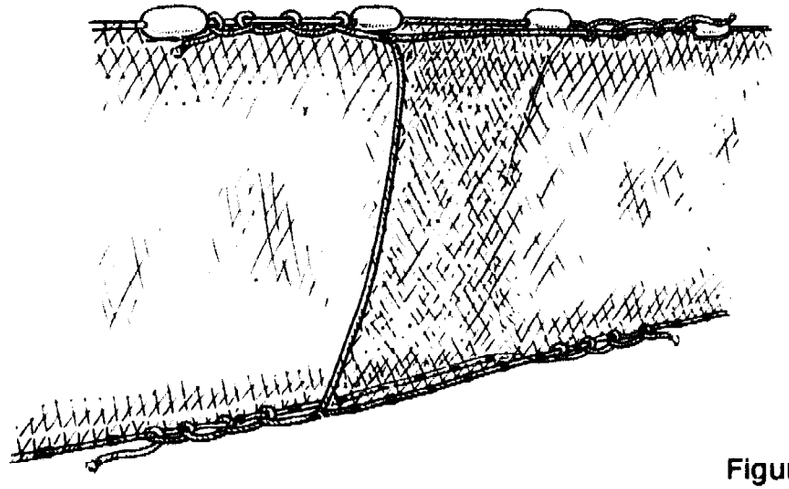
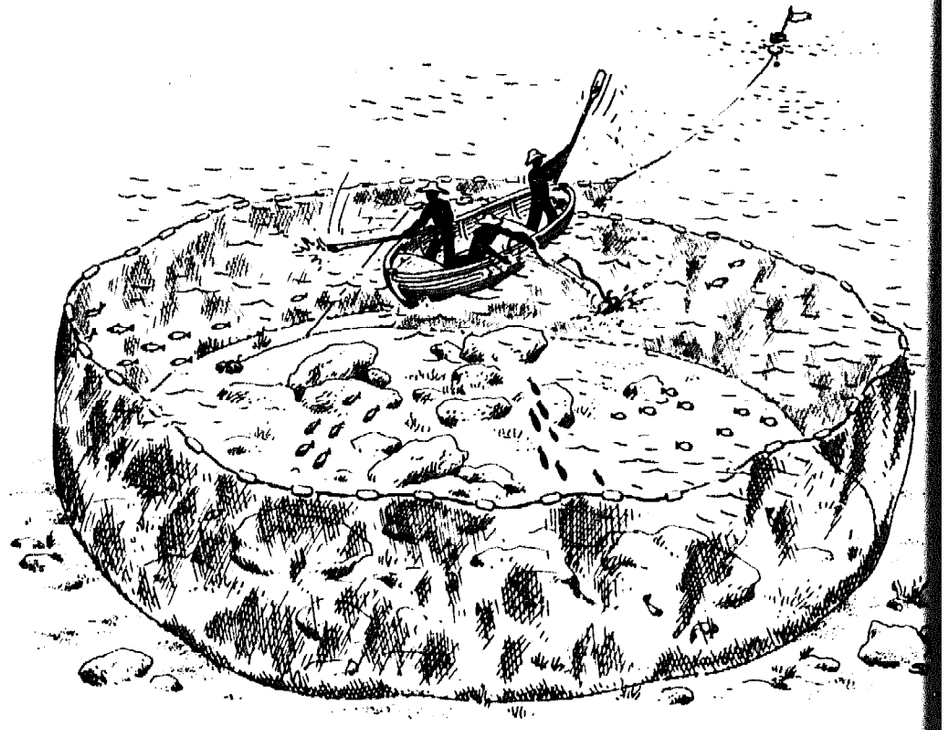


Figure 43

If the water is clear the fish may be abe to see the nets even at night. If they see the nets they may be frightened away before they get caught. Try to set the nets so that they trap the fish — so that the fish *have* to swim into the nets. There are many ways to do this.

You can set a net all across a river or the mouth of bay. In shallow water you can try driving the fish by hittin the water with oars, paddles or a flat board and making good deal of splashing. The fish will be frightened by th noise and may swim into the nets (Fig. 44).

Figure 44



If you are fishing in shallow water near the shore, tie one end of the net to something on land and stretch the net straight out into the water until you come to the drop-off (where the water gets deep). Then curve the end of the net around toward land to trap fish that try to swim around (Fig. 45). If one net is not long enough you can always tie several nets together in a fleet.

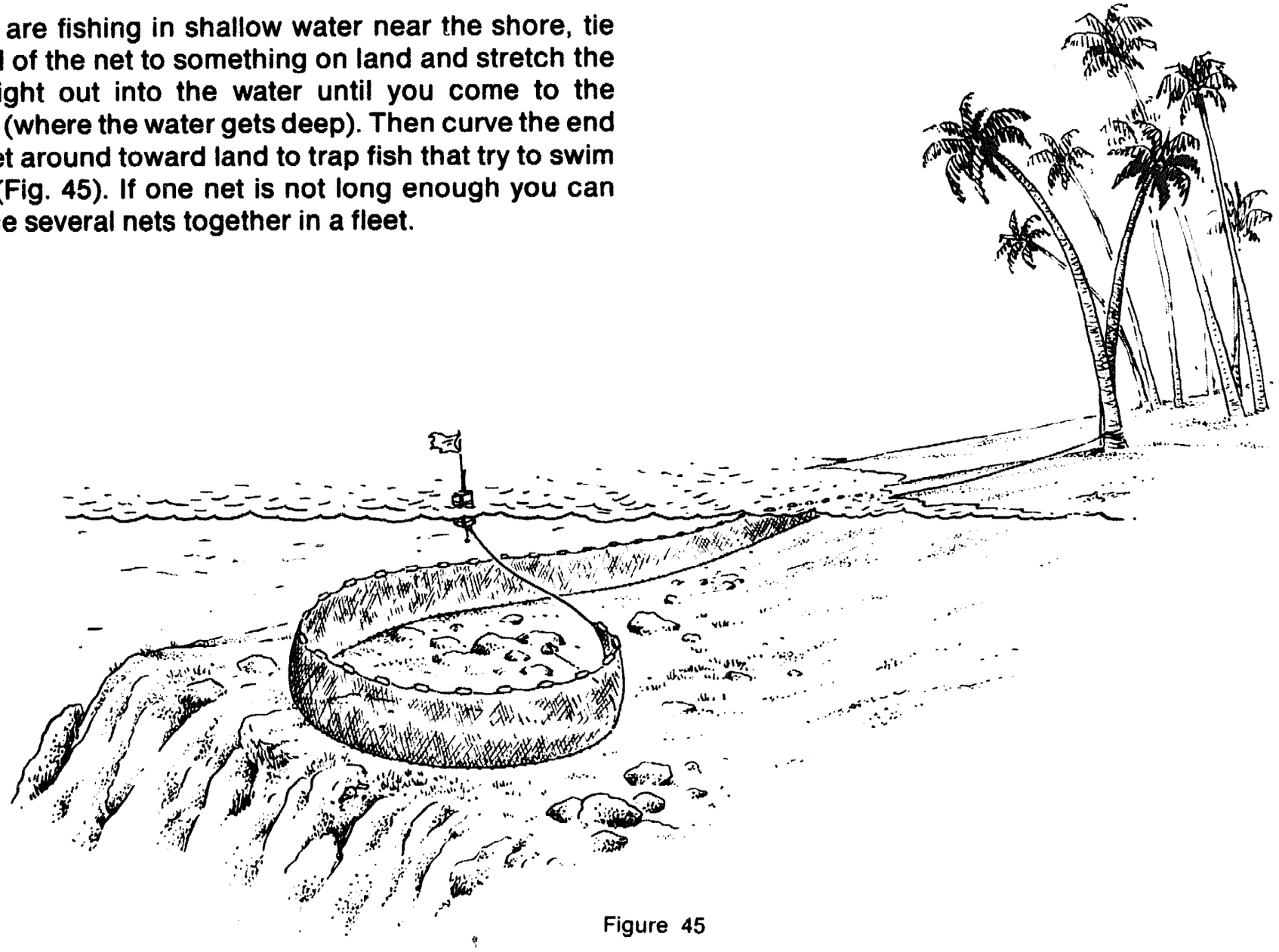


Figure 45

Set one net or a string of nets across the current in the shape of a half circle with loops at both ends (Fig. 46).

Set a series of nets at an angle to the current so that the fish are led from one net to the next (Fig. 47).

Remember, when you are setting fleets of nets be sure to close the holes between the nets. Otherwise the fish will find them and swim right out (Fig. 48).

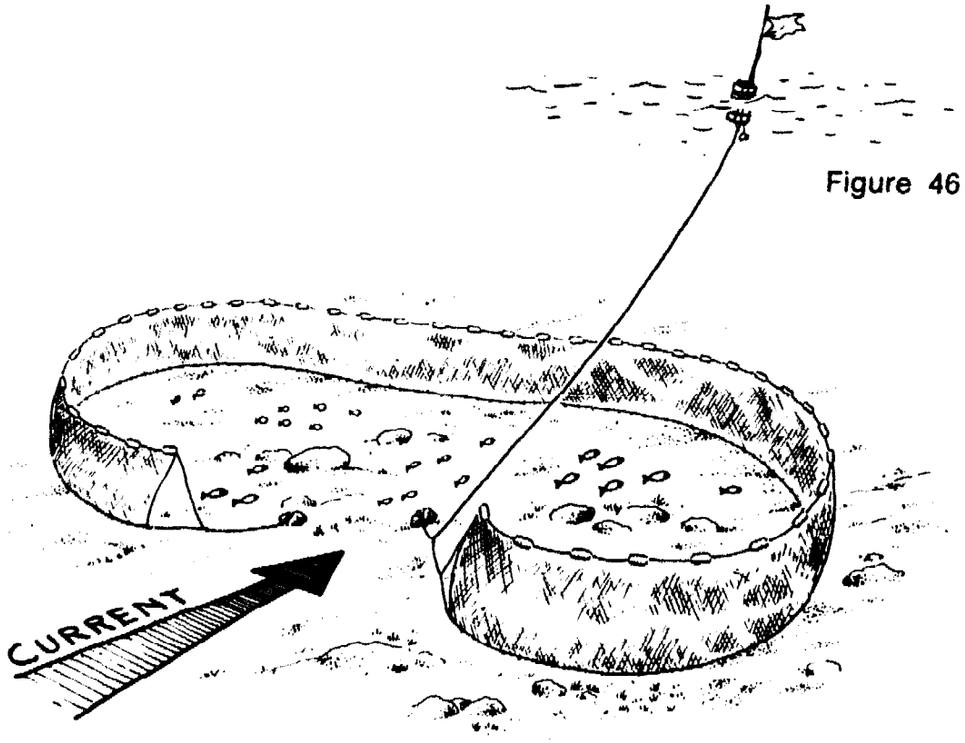


Figure 46

Figure 47

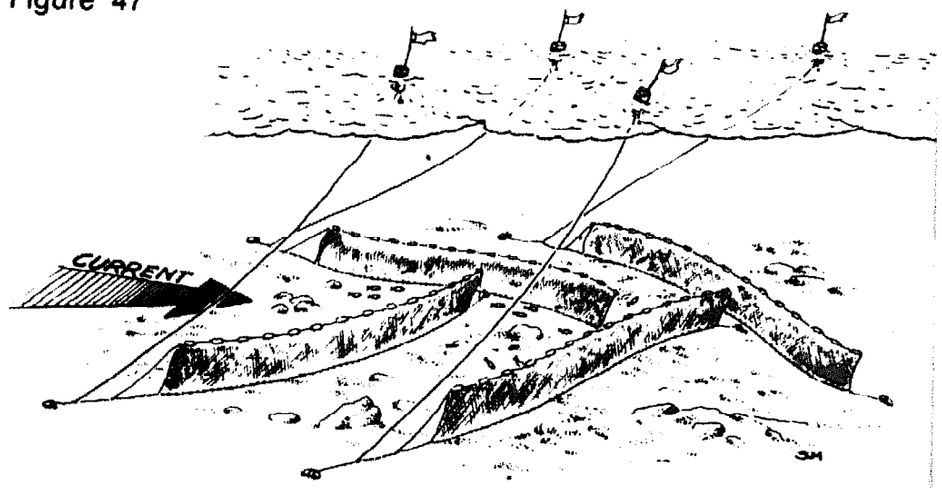
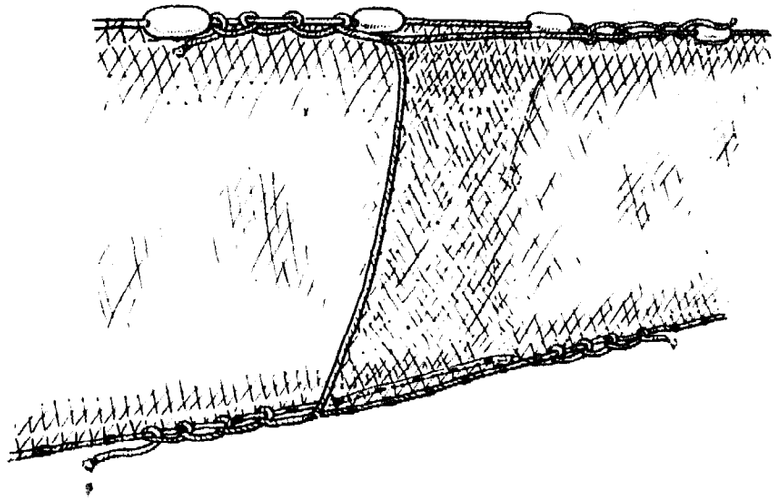


Figure 48



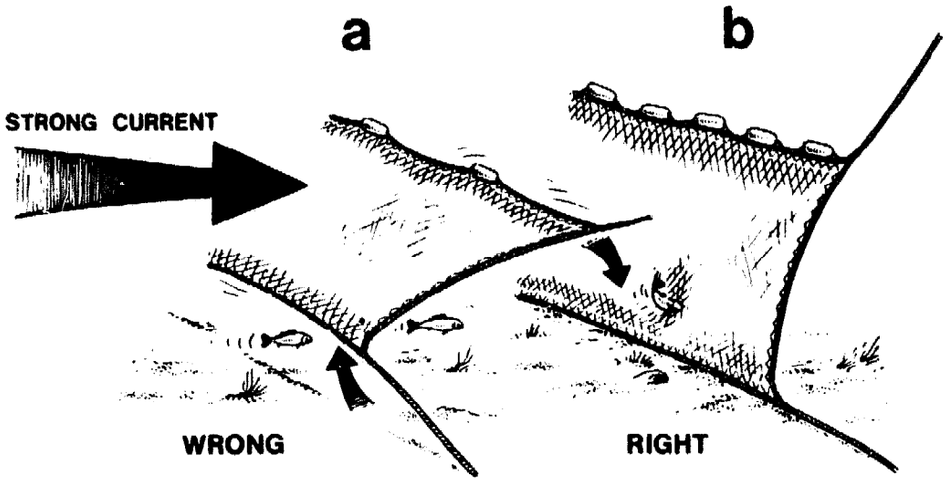
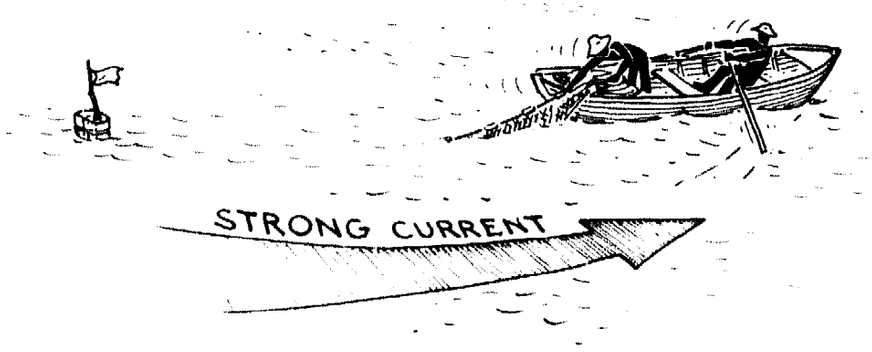


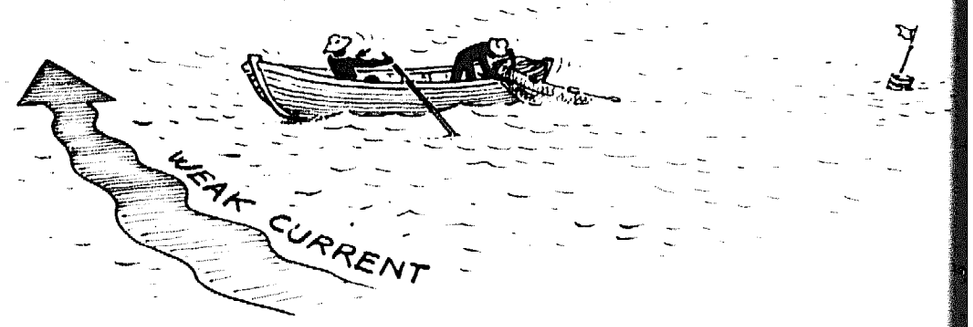
Figure 49

Remember, if you set your nets across the current you may need more sinkers on the leadline to keep the net from moving and more floats on the floatline to keep the net from being pushed over in the water (Fig. 49). If the current is very strong set your nets with it, *not* across it (Fig. 50).

If you have many nets to haul or if you fish in water deeper than 40 metres you can save work by using a *net hauler*. The pictures show two of them (Figs. 51 and 52), but there are many other types, some that are very simple and can be made in any good mechanical workshop.

Figure 50





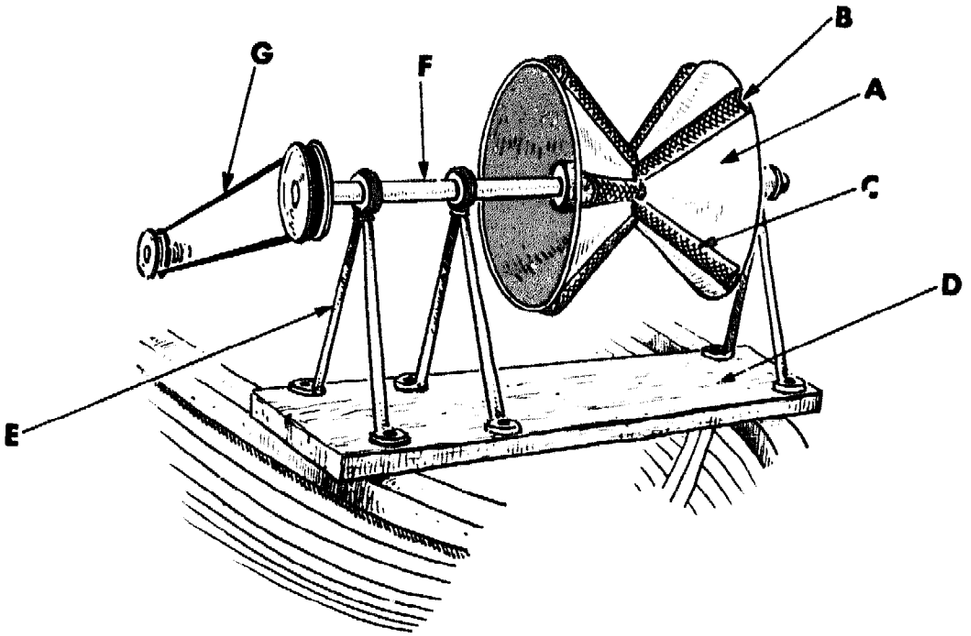


Figure 51

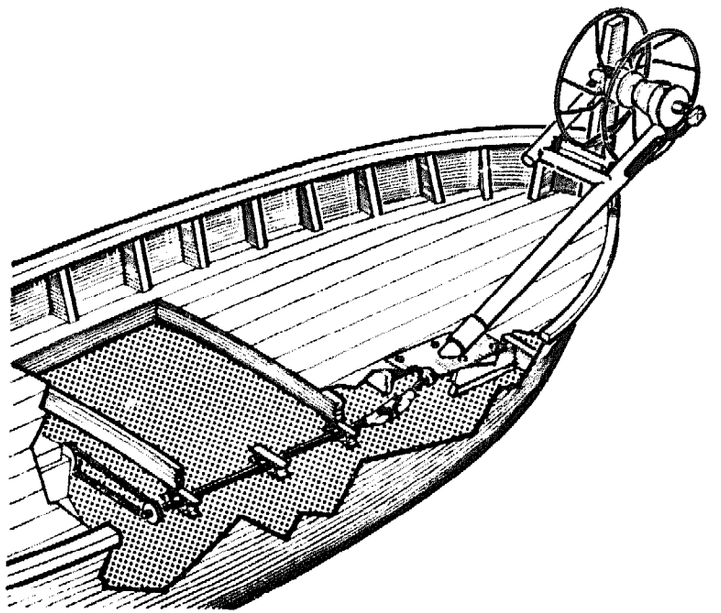


Figure 52

KEY

A = Plywood, tin or fibreglass conical sheave
B = Wooden plank of semi-circular profile (half of round wooden stick)
C = Old bicycle or motorcycle tyre section covering the wooden plank
D = Base board
E = Iron supports
F = Shaft
G = Belt-drive to engine

If you have many nets to set and use iron rings a sinkers you can do the job more quickly by hanging th nets on *shooting sticks* by their staples instead of stac ing them in the back of the boat. There is a very conv nient way of hanging the nets on a forked (doubl shooting stick where ring-shaped floats and sinkers a used (Fig. 53).

Take good care of the fish you catch. Fish will tu

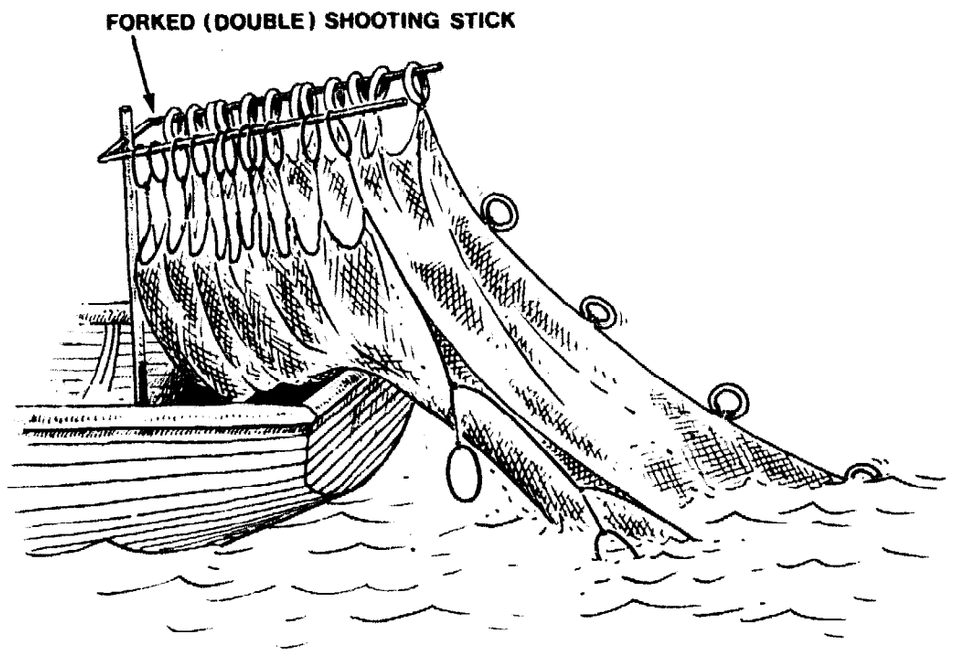


Figure 53

rotten very quickly if they get too warm or if they are kept in a dirty place. The best way to keep fish fresh is to keep cool by putting them in a clean, covered box with plenty of chopped ice (Fig. 54). If you cannot get ice, keep the fish fresh by protecting them from the sun and by putting them in a clean place (Fig. 55). Fish that are going to be dried or salted must also be kept fresh until you are ready to begin the salting or drying.

Take good care of your nets so they will last a long time and catch the most fish possible. Make sure that you have enough sinkers and floats on each net. Check the net for holes after every time you use it and mend the holes right away. A small hole will soon get bigger if you do not fix it and fish will get away (Fig. 56a). Mend very big holes by cutting the hole square and braiding in a new piece of netting the same size as the hole (Fig. 56b).

Figure 54

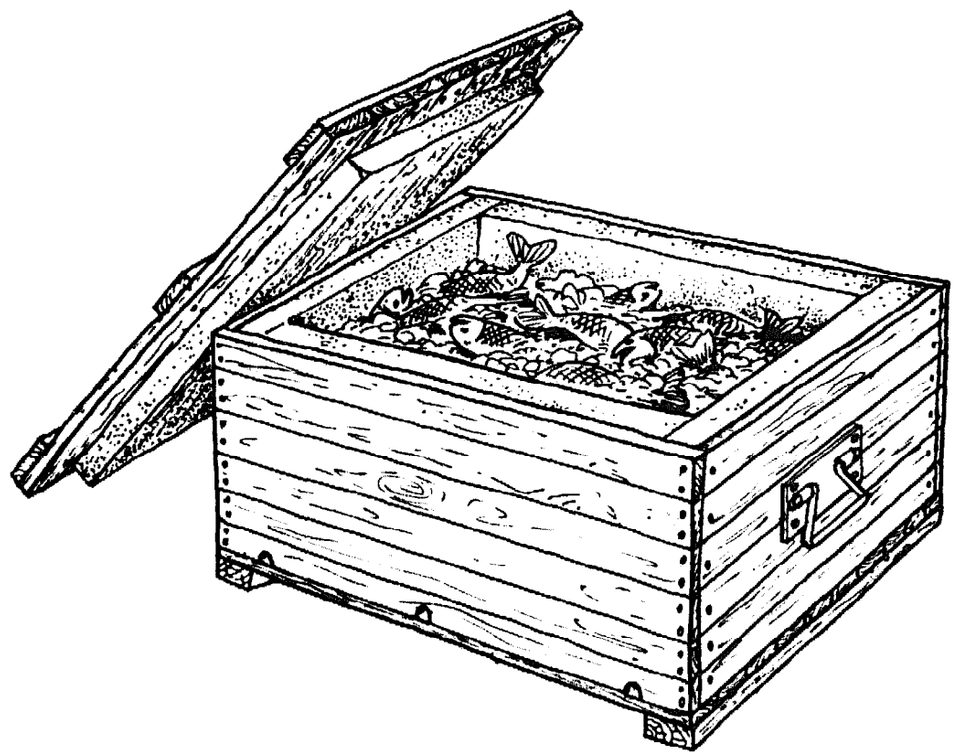
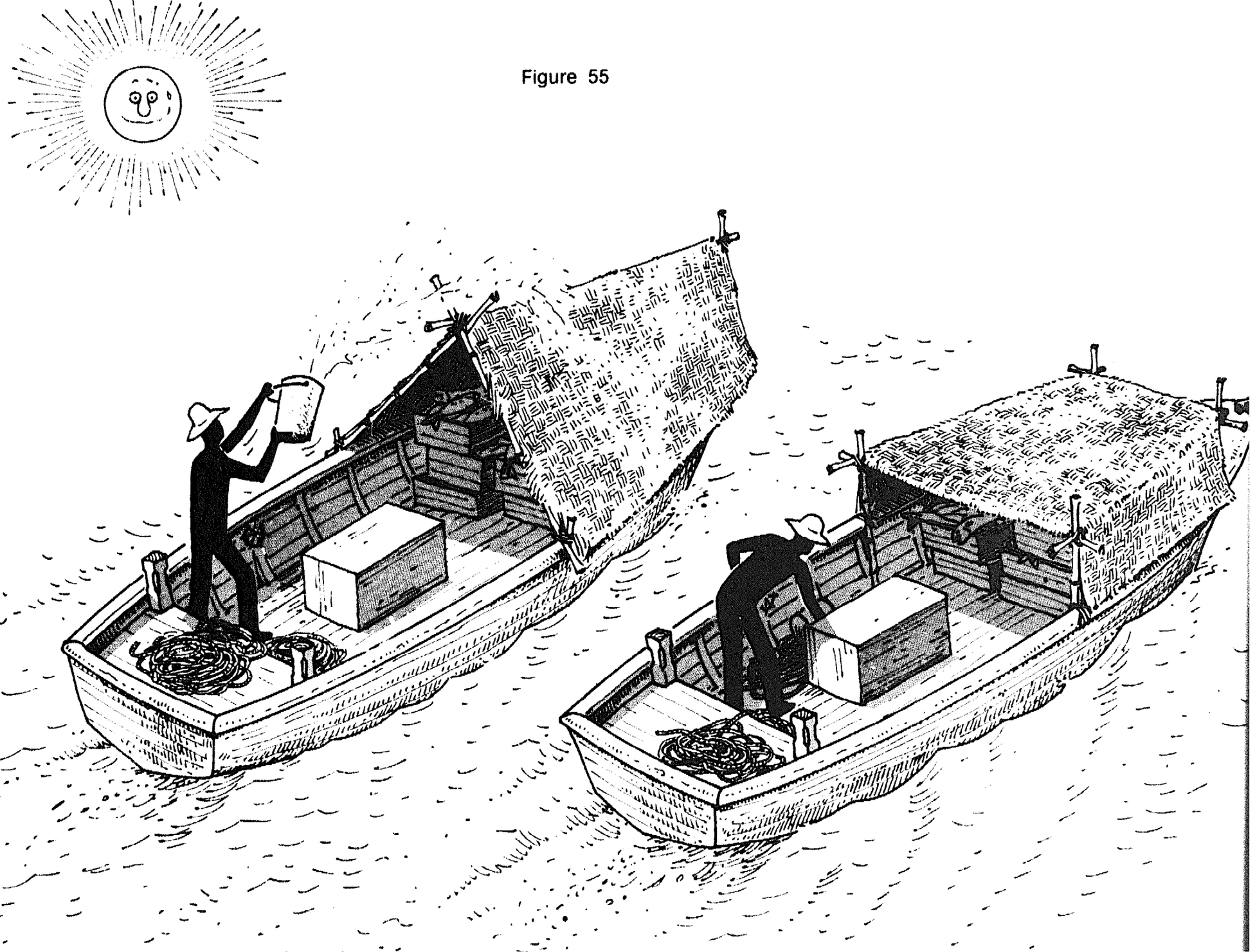


Figure 55



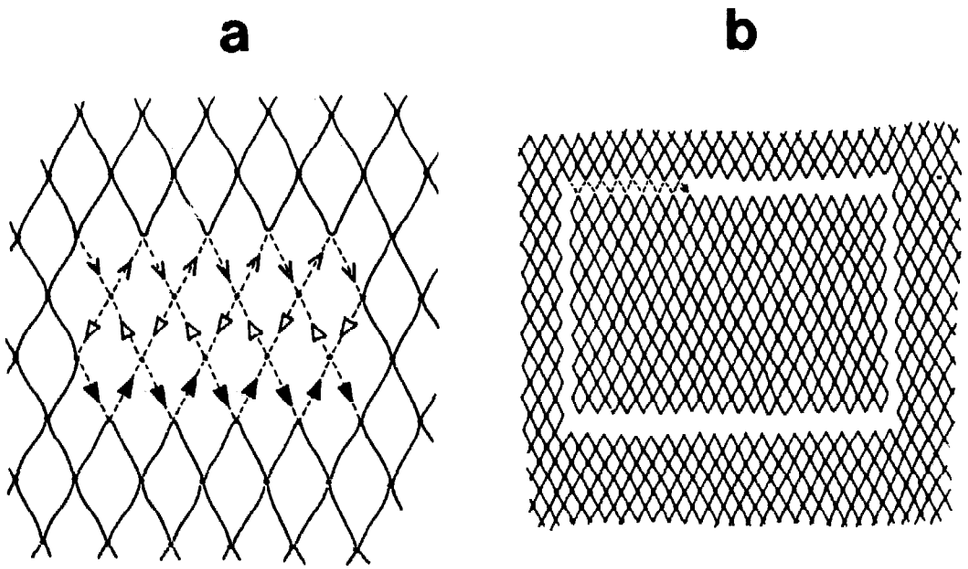


Figure 56

HOW TO MAKE TWO OTHER KINDS OF BOTTOM-SET GILLNETS

Perch net. This net is good for fishing in lakes or rivers with a canoe or a skiff. It is a good net to use for catching perch, roach or other small fish.

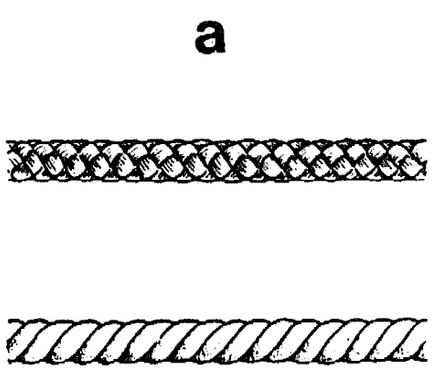
The netting is made from *monofilament nylon* and is thin and stiff. The monofilament thickness is 0.2 millimetres (22 700 m/kg). Ten wraps of it on a stick should measure about 2 millimetres. Use Fig. 8 (page 5) as a guide. If you want to braid your own netting you will need about 11 500 metres monofilament, that is, less than half a kilogram of nylon (450 grams). Remember that you should use double knots when you are braiding monofilament.

The stretched mesh size of one mesh should be 6.5 centimetres. Ten meshes stretched-out fully will measure 65 centimetres. Use Fig. 9 (page 6) as a guide.

You need a piece of netting which has a stretched length of 100 metres. The stretched depth should be 3 metres, or 46 meshes.

The rope for the floatline and the leadline should be nylon, polyethylene, or polypropylene, either braided or twisted (Fig. 57a). The rope should be at least 4 millimetres thick. You can use heavy twine for the gavels.

Figure 57a



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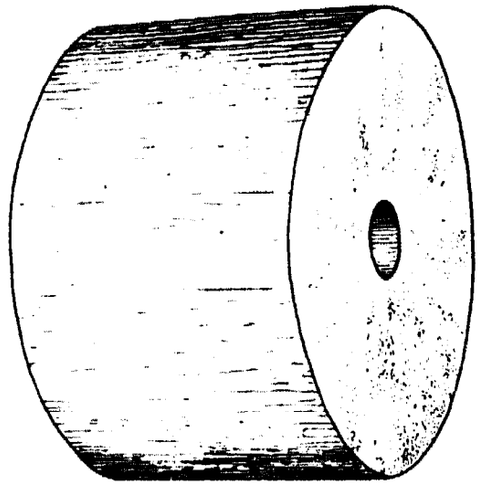


Figure 57b

Cork or plastic floats should be about the size of the one shown in the picture: 5 centimetres by 3 centimetres (Fig. 57b). You can also use floats made of wood or styrofoam. You will need 50 floats to make one net. To make the sinkers use lead, iron rings, chain or round stones.

For lead sinkers use 6 kilograms — for example, 100 sinkers, each weighing about 60 grams.

For iron sinkers use 9 kilograms — 50 sinkers, each weighing about 180 grams.

For stone sinkers use 30 kilograms — 30 sinkers, each weighing about 1 kilogram.

The twine you use to sew the net together shou be twisted or braided nylon, 0.4 millimetres thick. T wraps on a stick should measure 4 millimetres. Use Fig (page 5) as a guide.

The anchor-ropes can be made from the same rope the rest of the net. A tin or a plastic container or a piece styrofoam will make a good buoy. You can make ancho from big stones.

To make the net, first soak the rope you are going use with water and stretch it to get all the snarls a tangles out (Fig. 17, page 11). Measure out the pieces y need for the floatline and the leadline. The piece for t floatline should be 52 metres long. The piece for t leadline should be 57 metres long.

To hang the net from the floatline, stretch 5-10 metr of the lines between two trees or posts. Lash the twine the floatline at a spot 1 metre from the end. Pass t netting needle through three meshes and lash the twi to the floatline at a spot 10 centimetres from the fi lashing. You should cut a stick to measure with or y can use the meshes as a measure (Fig. 58). The spa between the staples is the same as the stretched length 1 1/2 meshes. Use the picture as a guide.

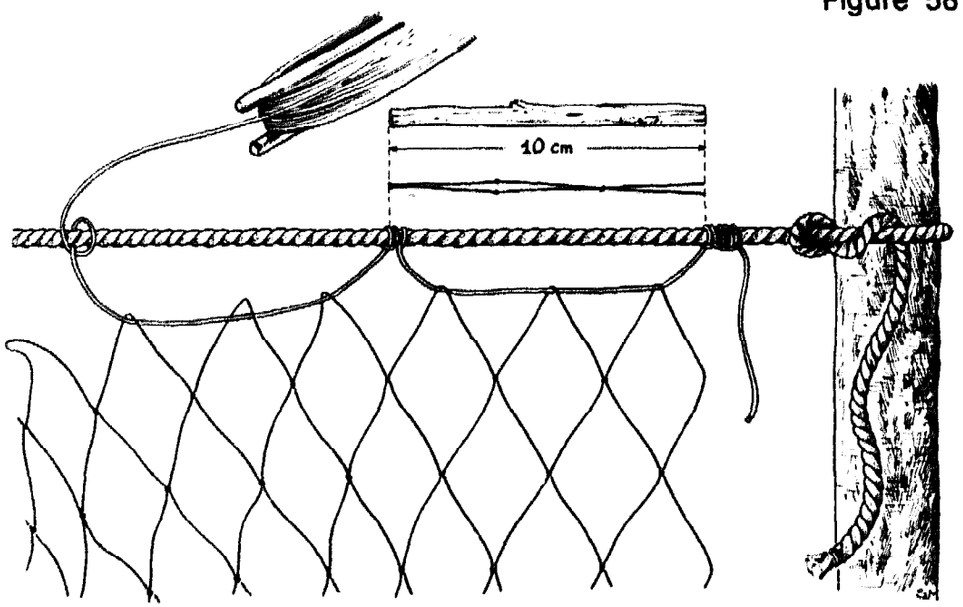
Continue passing the netting needle through th meshes and lashing the twine to the floatline every

centimetres until the netting is hung all along the floatline. Be sure to leave 1 metre of the floatline free of netting at each end of the net (Fig. 58).

To hang the leadline you do the same as for the floatline except that when you pass the needle through three meshes you must lash the twine to the floatline every 11 centimetres.

To make the gavels lash a piece of heavy twine to the floatline, pass it through all the meshes on the edge of the netting and lash it to the leadline. The distance between the floatline and the leadline should be 2.50 metres (Fig. 59).

Figure 58



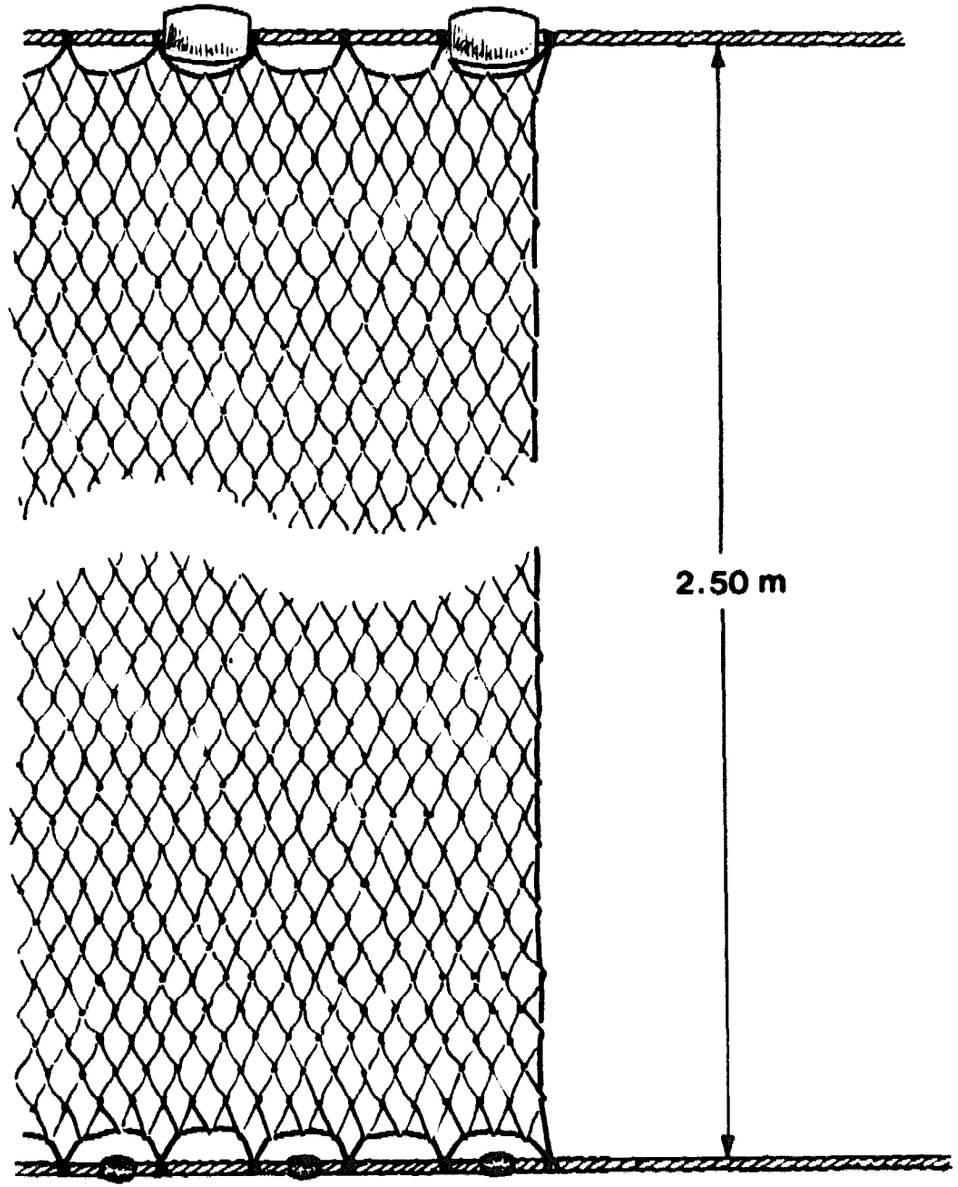


Figure 59

Attach one float to the floatline every metre. The sinkers should be attached to the leadline at an equal distance from each other.

If you are going to use this net where there is a strong current you may have to put on more sinkers and floats to keep the net from moving with the current. In rivers be sure that the anchor-ropes are long enough to keep the buoys from being pulled under by the current.

Shark net. This net is used to catch sharks by fishermen who have boats from 9 to 15 metres long (Fig. 60).

The netting twine is made from monofilament nylon, which is thick and stiff. The monofilament thickness is 0.9 millimetres (1320 m/kg). Ten wraps of twine on a stick should measure about 9 millimetres. You can also use twisted nylon twine of the same thickness (R 700 tex, 1430 m/kg).

The stretched mesh size should be 20 centimetres (Fig. 61). Ten meshes stretched out fully should measure 2 metres.

You need a piece of netting that has a stretched length of 75 metres. The stretched width of the piece should be 240 metres or 12 meshes.

To braid your own netting you will need about 2 200 metres of twine (1 1/3 kg).

Figure 60

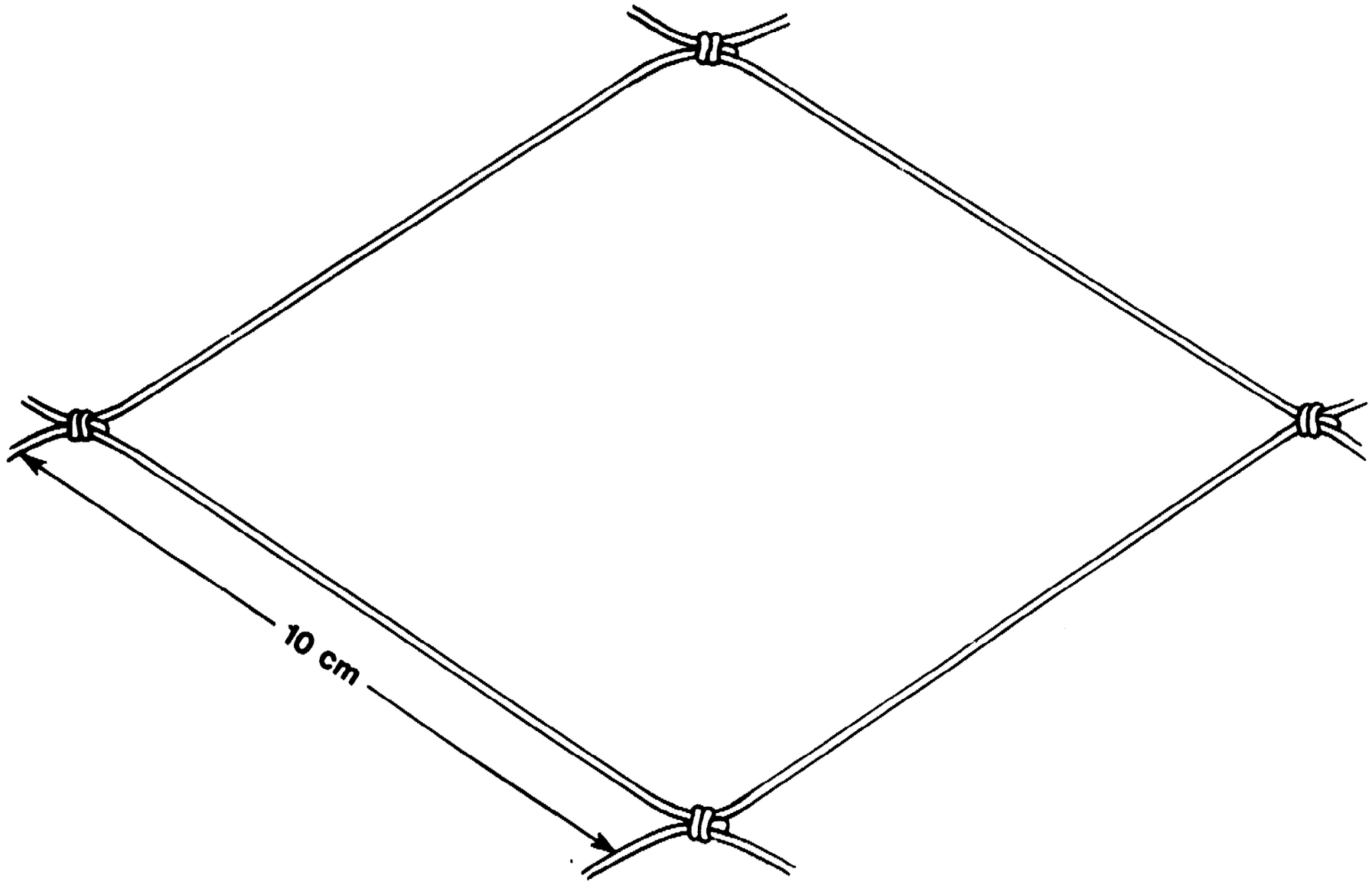


Figure 61

The rope for the floatline and the leadline should be either nylon or polypropylene, 6 millimetres thick. You will need about 110 metres to make the net. You do not need to make gavels for this net.

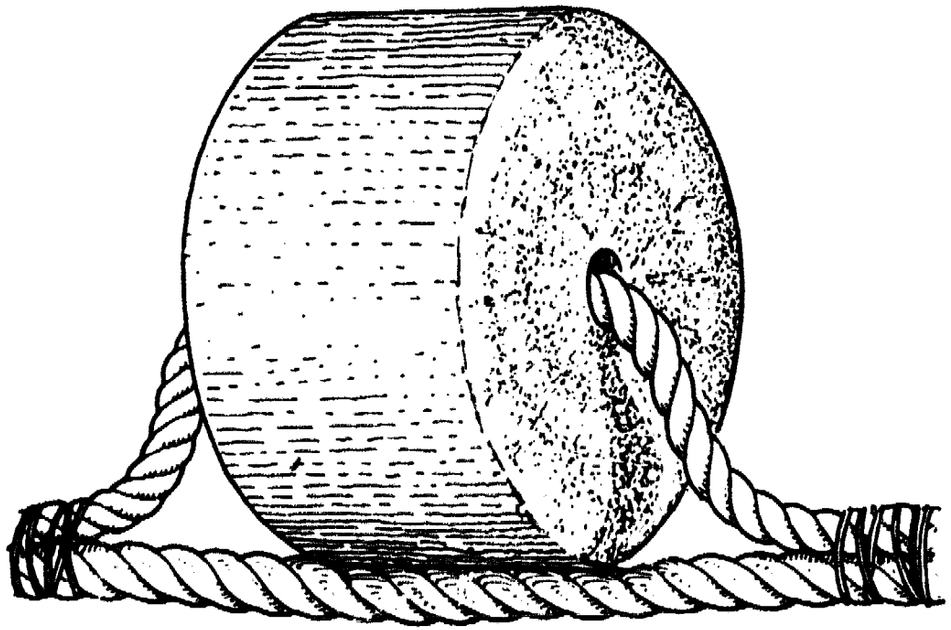
Cork or plastic floats should be about the size of the one shown in the picture: 6 centimetres by 3 centimetres (Fig. 62). You can also use floats made of wood. You w need 25 floats for the net.

To make the sinkers use lead, iron rings or rou stones.

For lead sinkers use 10 kilograms — for example, 1 sinkers, each weighing about 100 grams.

For iron sinkers use 15 kilograms — 50 sinkers, ea weighing about 300 grams.

Figure 62



For stone sinkers use 50 kilograms — 50 sinkers, ea weighing about 1 kilogram.

The twine you use to sew the net together should braided nylon, 2.5 millimetres thick. Ten wraps on a st should measure 25 millimetres.

The piece of rope you need for the floatline should 52 metres long, the piece for the leadline should be metres long. To hang the floatline stretch it between t trees and lash the twine to a spot 1 metre from the e Pass the needle through three meshes and make second lashing 40 centimetres from the first. Use t stretched meshes to measure this distance. Contir hanging three meshes every 40 centimetres all along floatline. Make sure to leave 1 metre of the floatline fre each end of the net.

To hang the leadline make the first lashing 1 metre from the end just as with the floatline, but hang three meshes every 44 centimetres.

You do not need to make gavels for this net, but when you attach the anchor-rope to the net you should tie it to both the floatline and the leadline.

Nets made with monofilament netting are stiff and tend to puff up when they are left lying on the deck. This means that they can easily blow away in a strong wind and that they will take up plenty of space in your boat. When you are using monofilament nets it is best to have a box with a lid into which you can stuff the nets when you are not working with them, or to cover them with a piece of wood.

HAPPY FISHING!

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This booklet is about bottom-set gillnetting. It shows how to make three different kinds of nets, how to use them, and describes equipment that can be used to make fishing easier. It is written for fishermen and for people already using nets to catch fish in different ways.